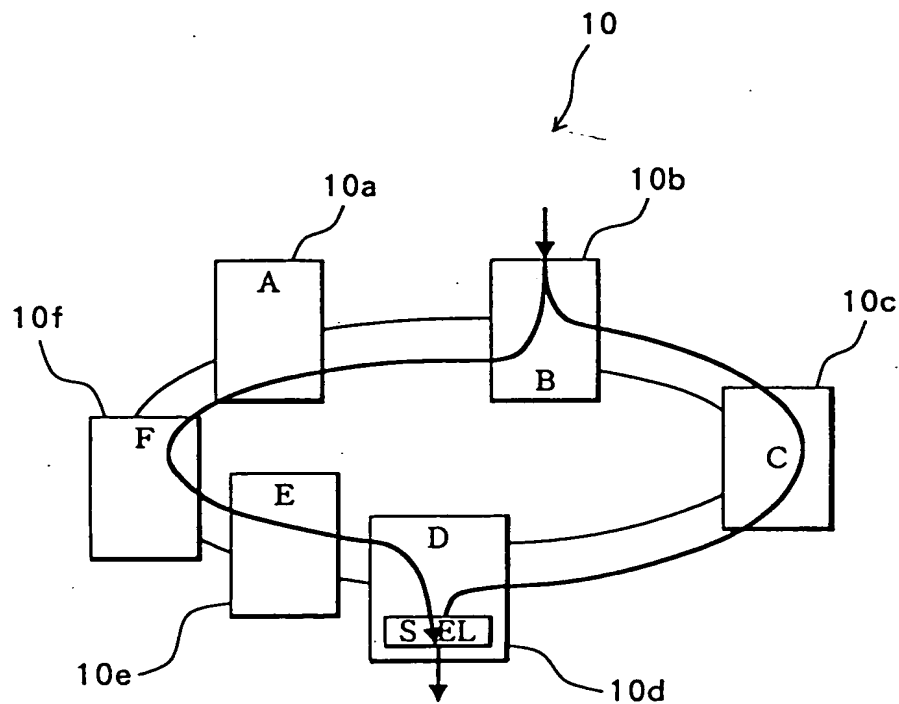


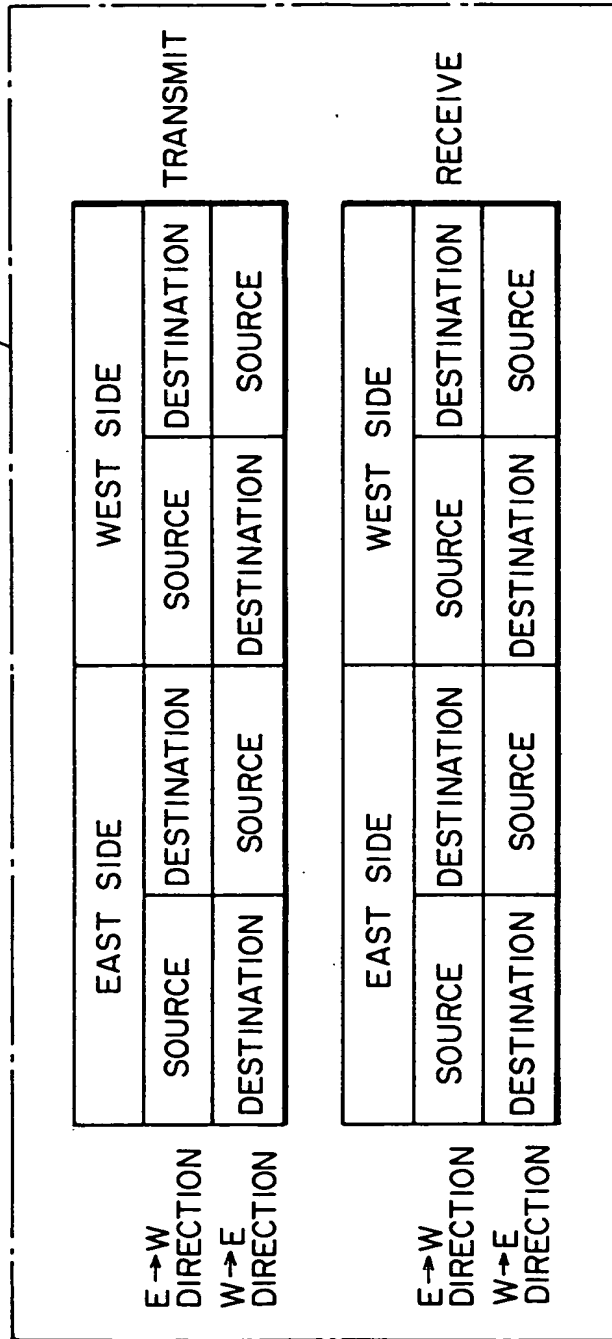
FIG. 1



09695613-102400

FIG.2

1



SOURCE : 4BITS  
DESTINATION : 4BITS

FIG. 3

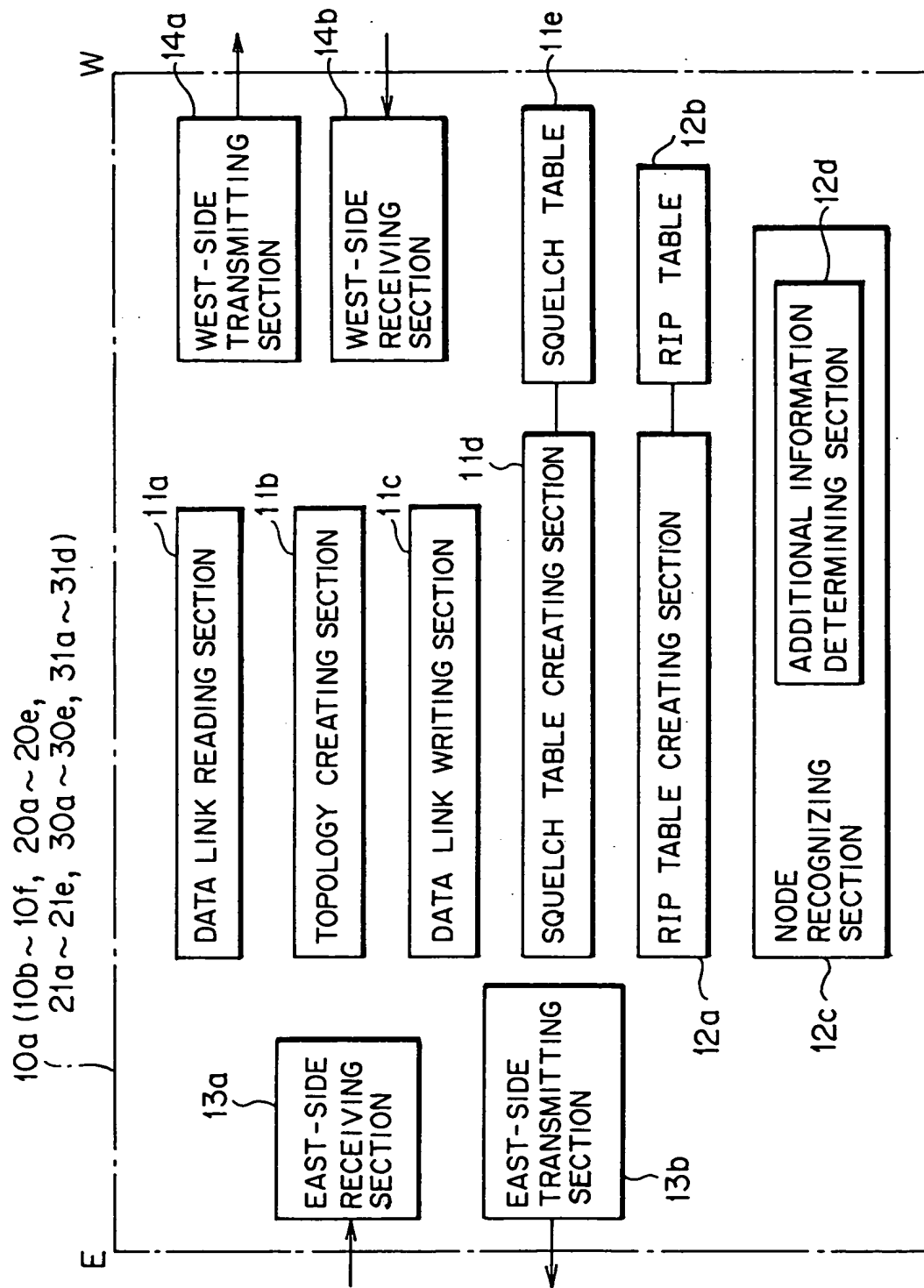


FIG. 4(a)

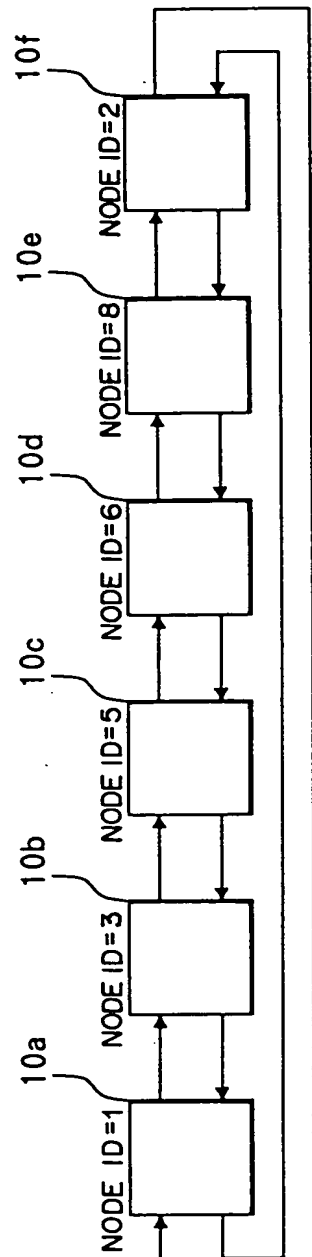


FIG. 4(b)

NODE ID	1	3	5	6	8	2
TOPOLOGY TABLE	1,3,5,6,8,2	3,5,6,8,2,1	5,6,8,2,1,3	6,8,2,1,3,5	8,2,1,3,5,6	2,1,3,5,6,8

FIG. 4(c)

	NODE 1	NODE 3	NODE 5	NODE 6	NODE 8	NODE 2
RELATIVE INDICATED NODE ID	INDICATED NODE	INDICATED NODE	INDICATED NODE	INDICATED NODE	INDICATED NODE	INDICATED NODE
0	1	3	5	6	8	2
1	3	5	6	8	2	1
2	5	6	8	2	1	3
3	6	8	2	1	3	5
4	8	2	1	3	5	6
5	2	1	3	5	6	8

FIG. 5(a)      FIG. 5(b)      FIG. 5(c)      FIG. 5(d)

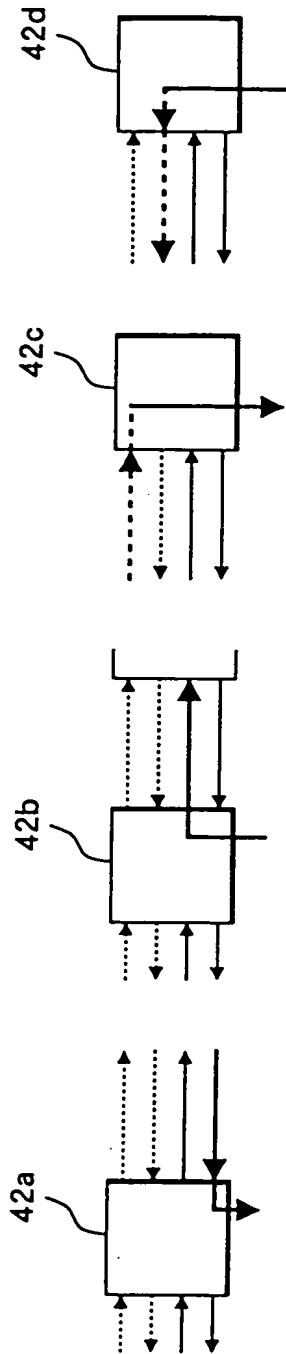


FIG. 6(a)

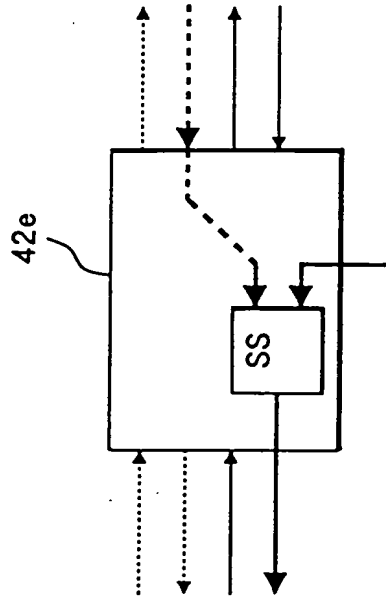


FIG. 6(b)

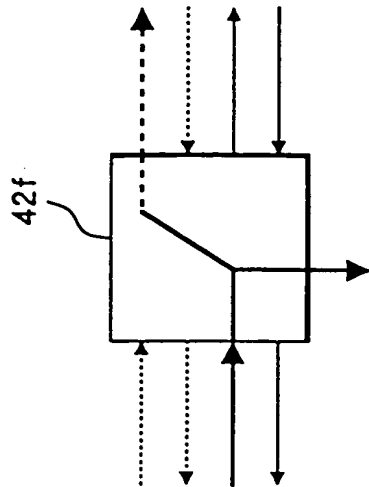


FIG. 7(a)

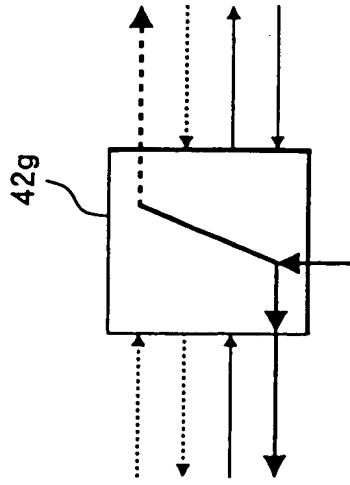
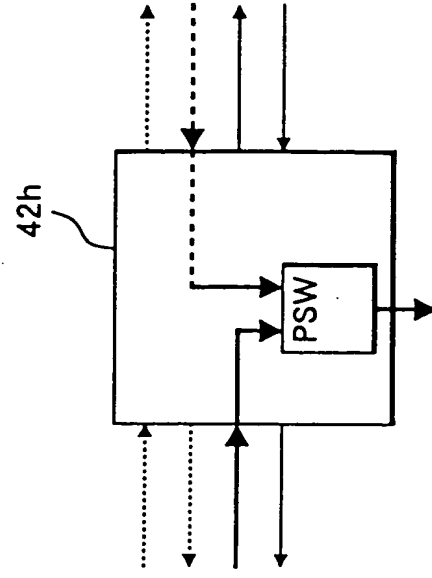
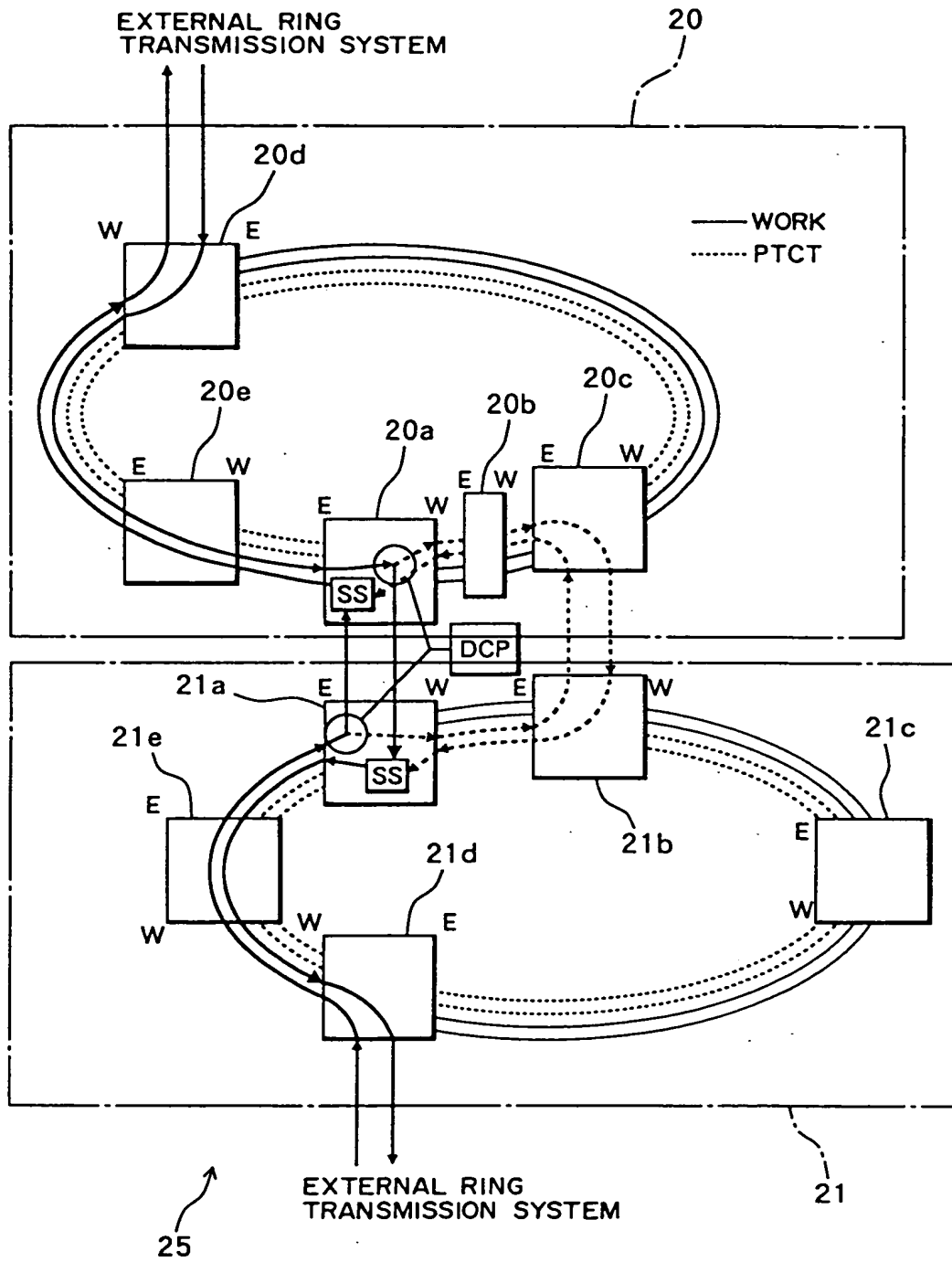


FIG. 7(b)



# FIG. 8



004207 "ET95960



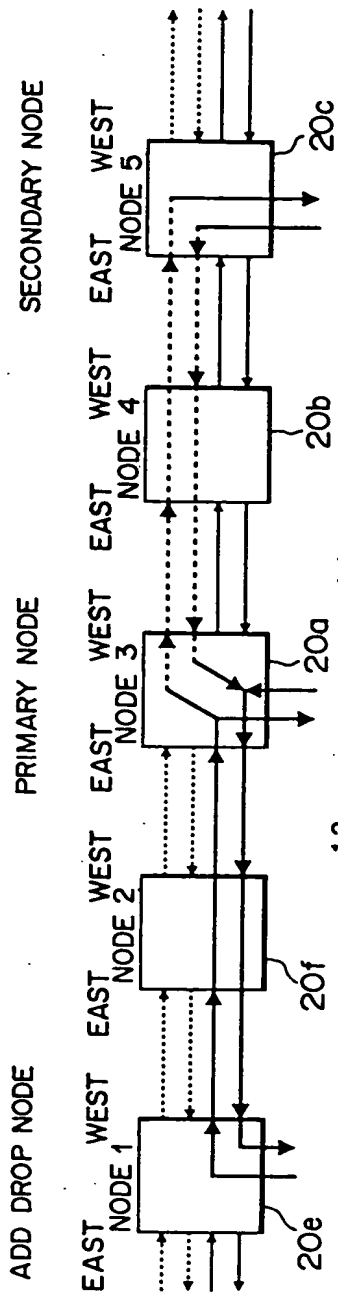


FIG. 9(a)

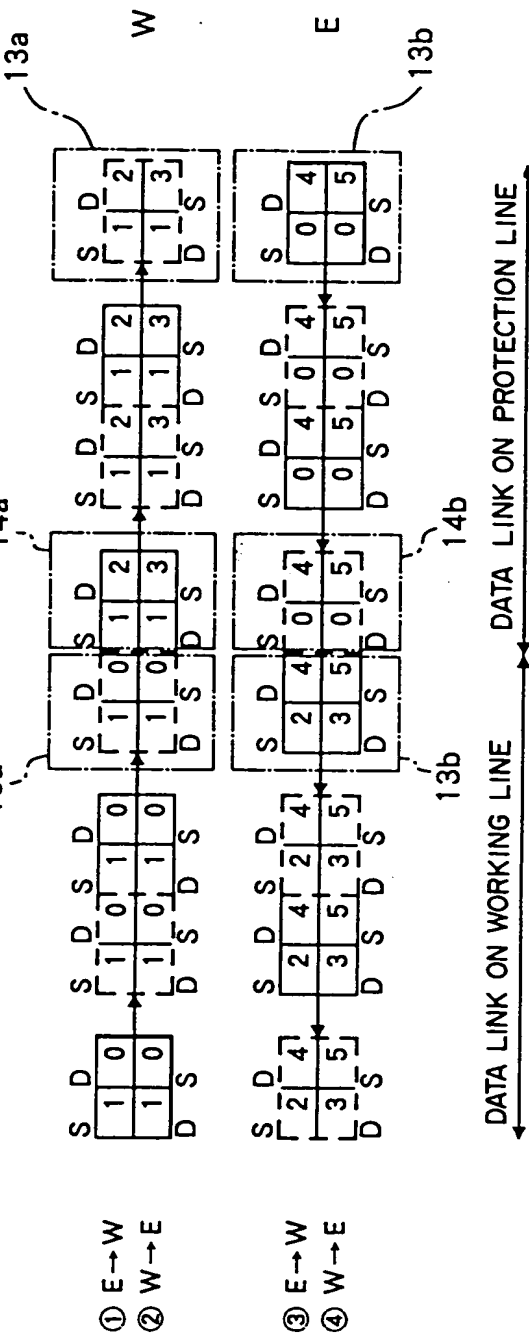
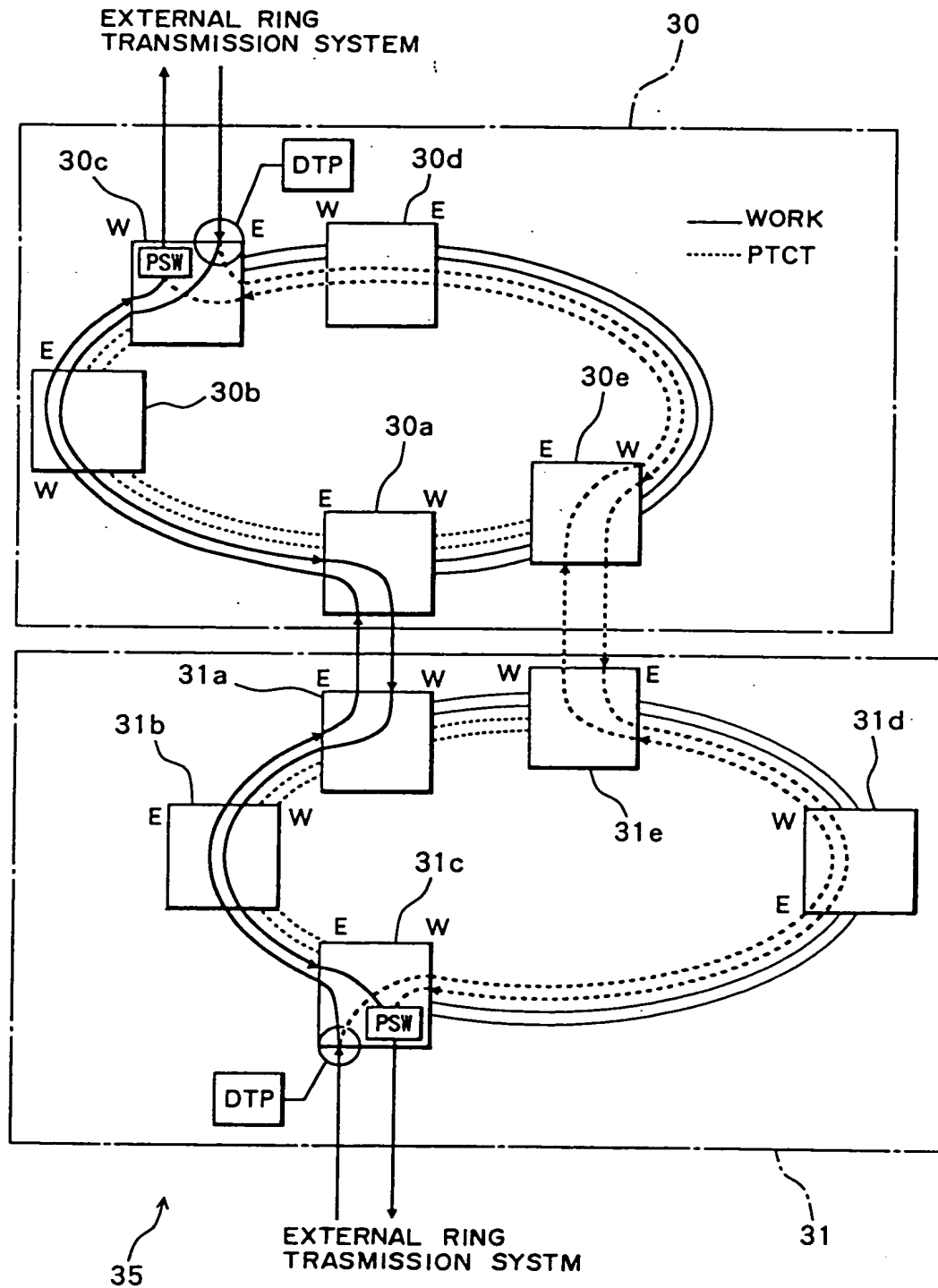


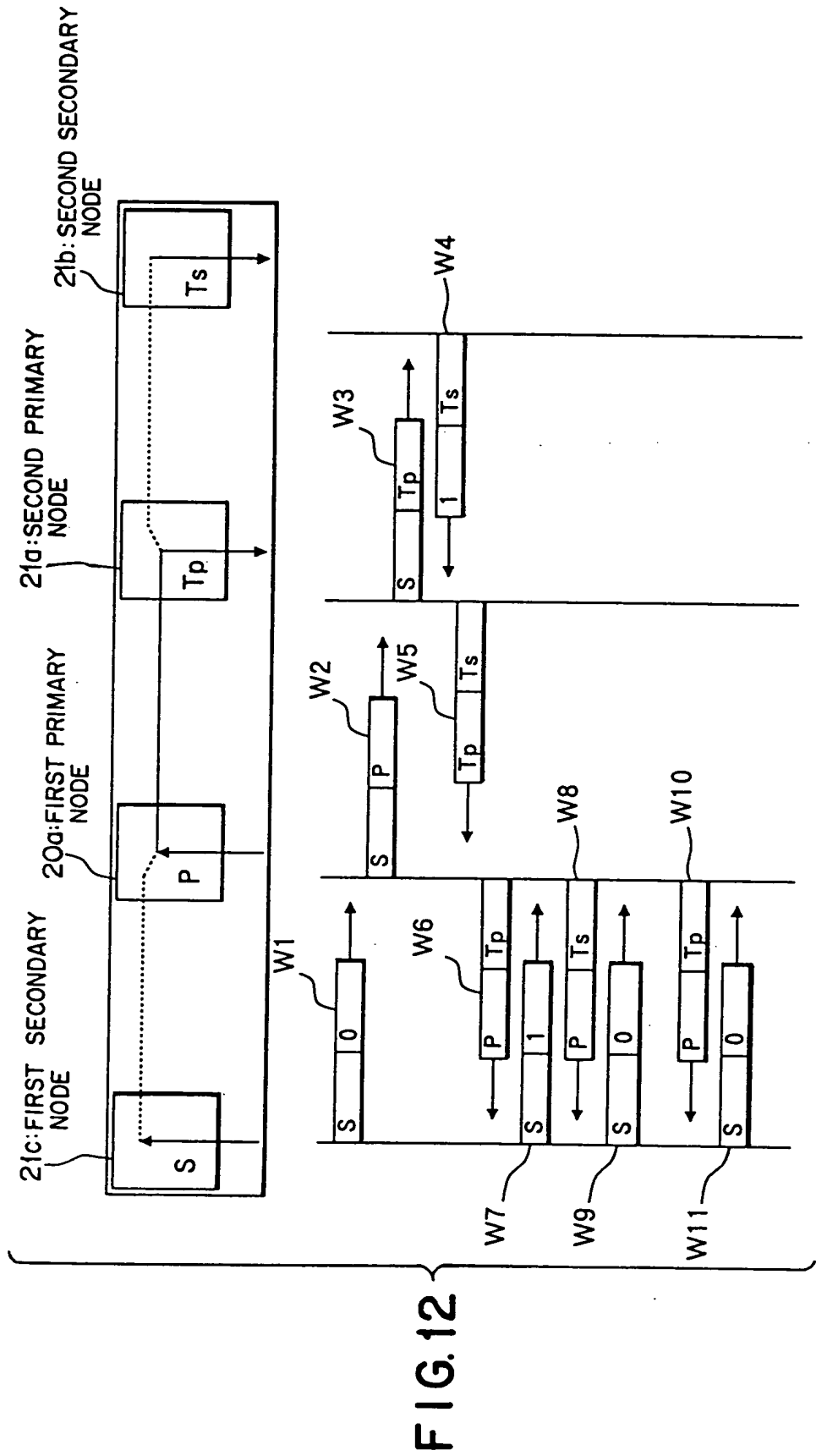
FIG. 9(b)

# FIG. 10



004207" ET955960







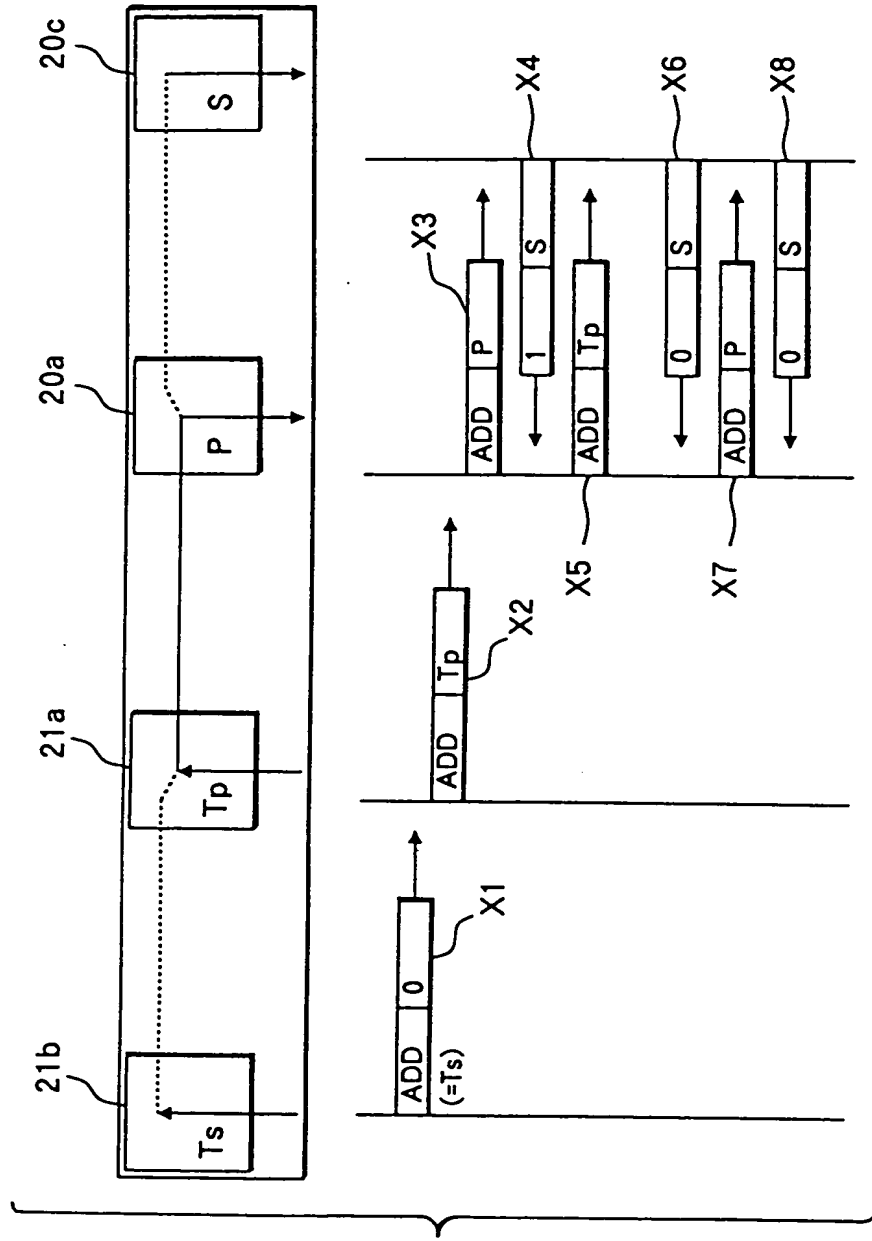
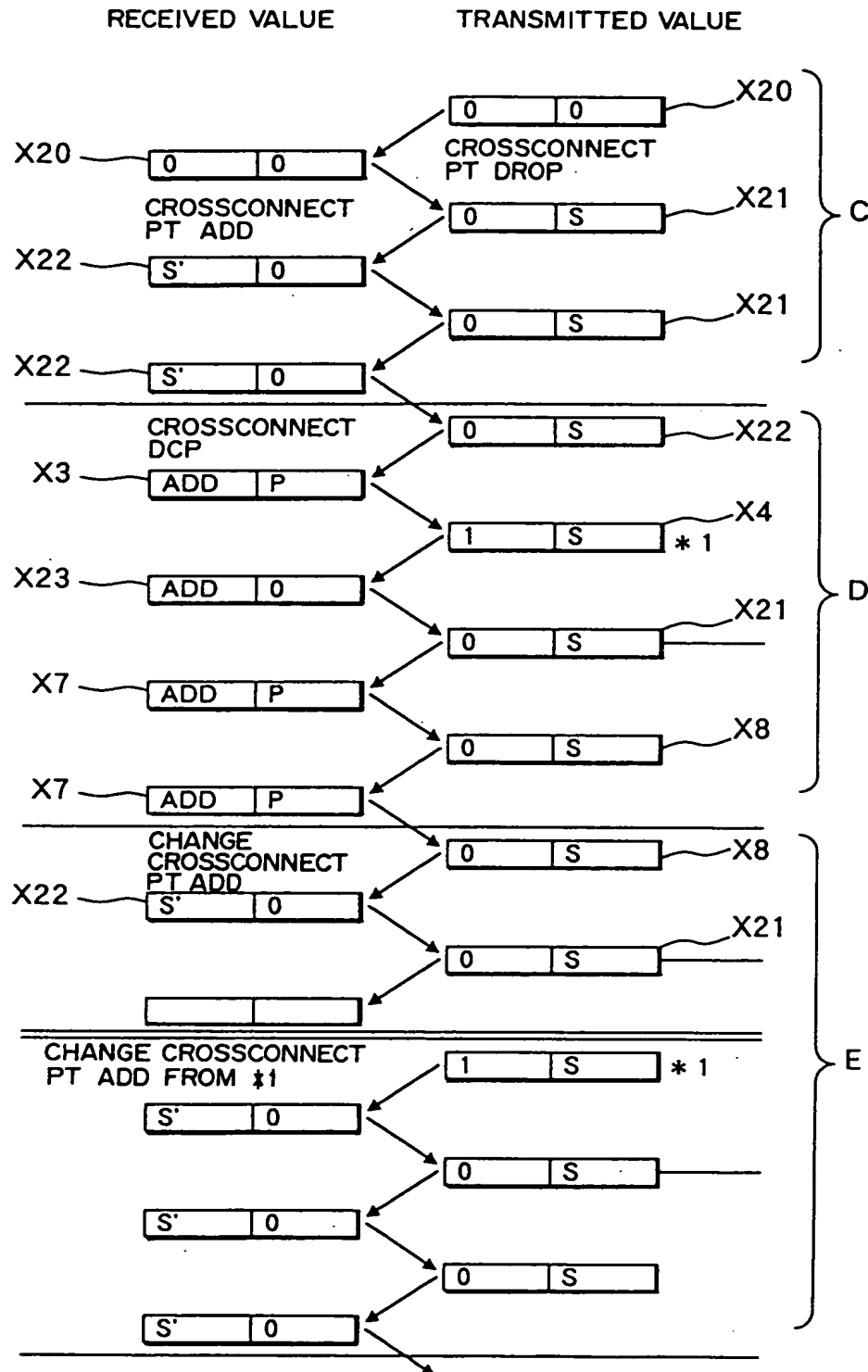


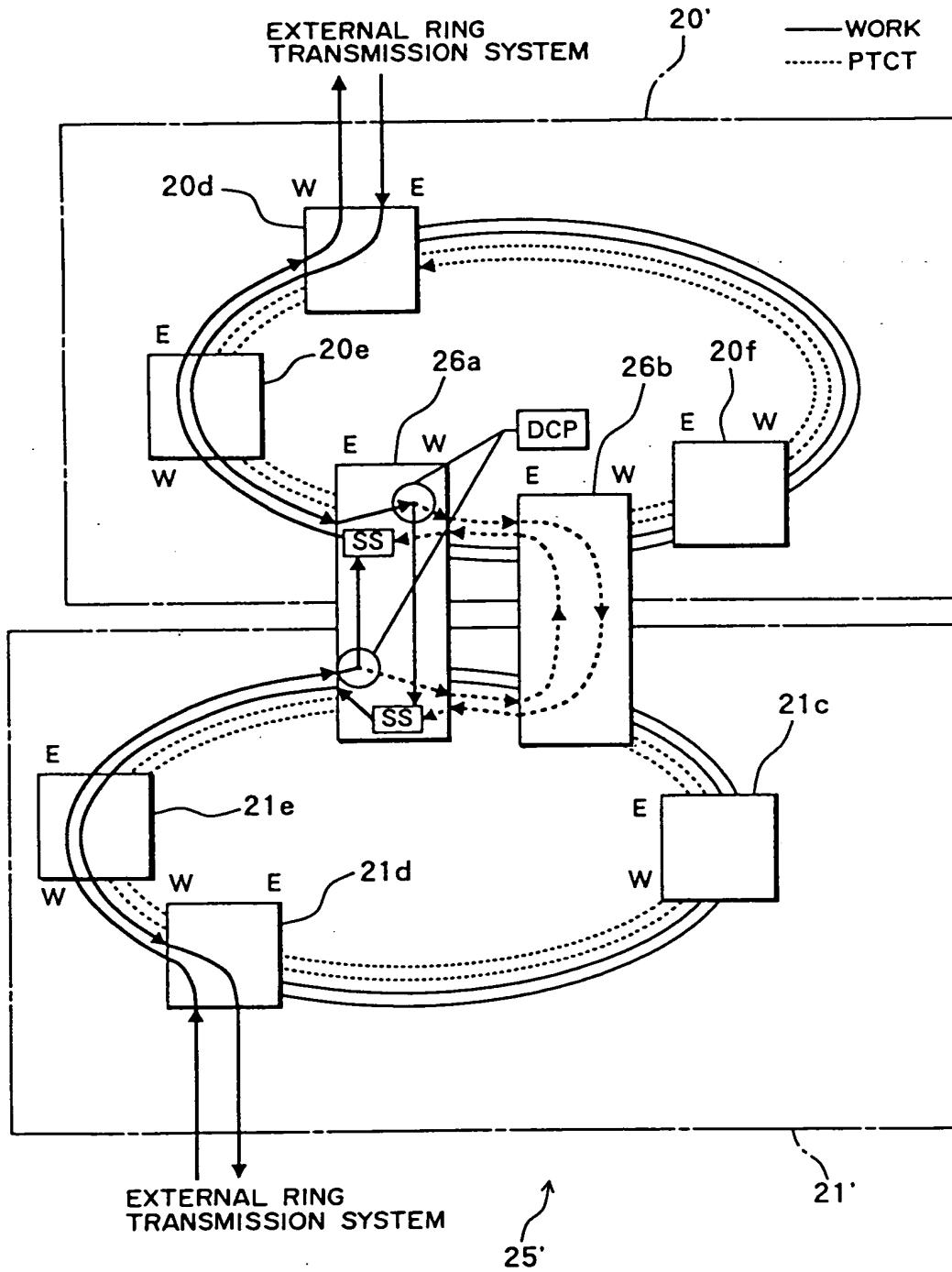
FIG. 14

# FIG. 15



004207 ETSS60

# FIG. 16



00420T ET956960



FIG. 17

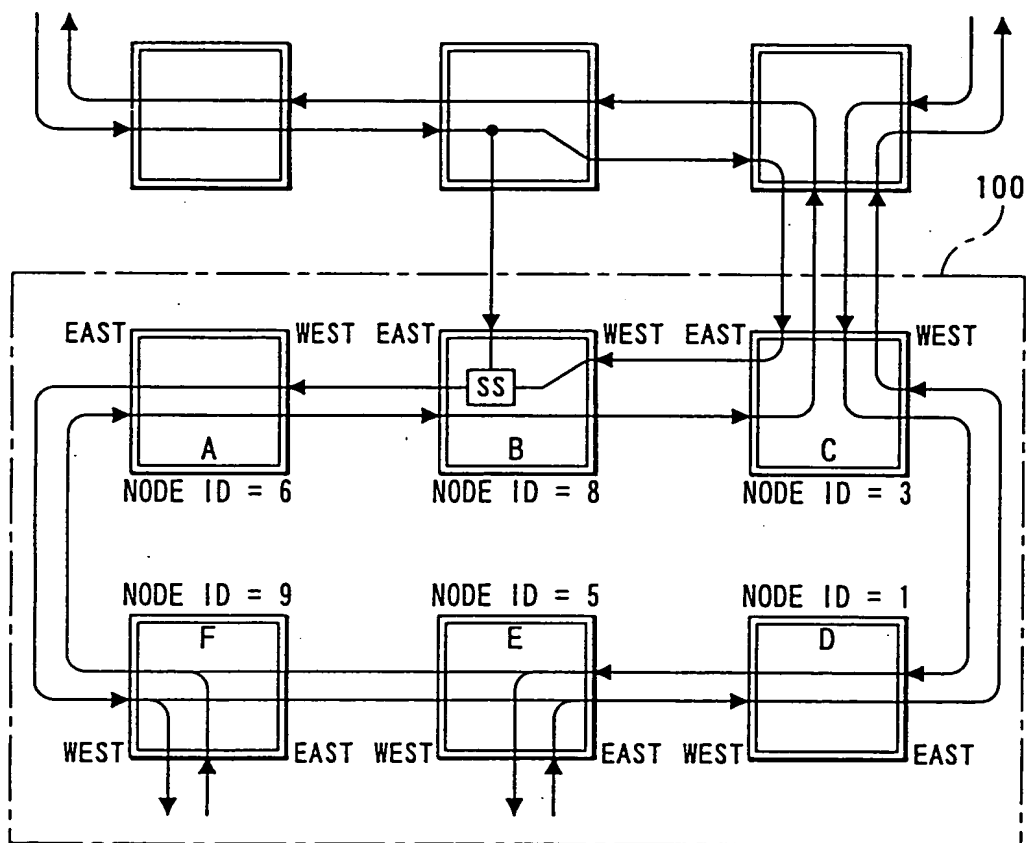
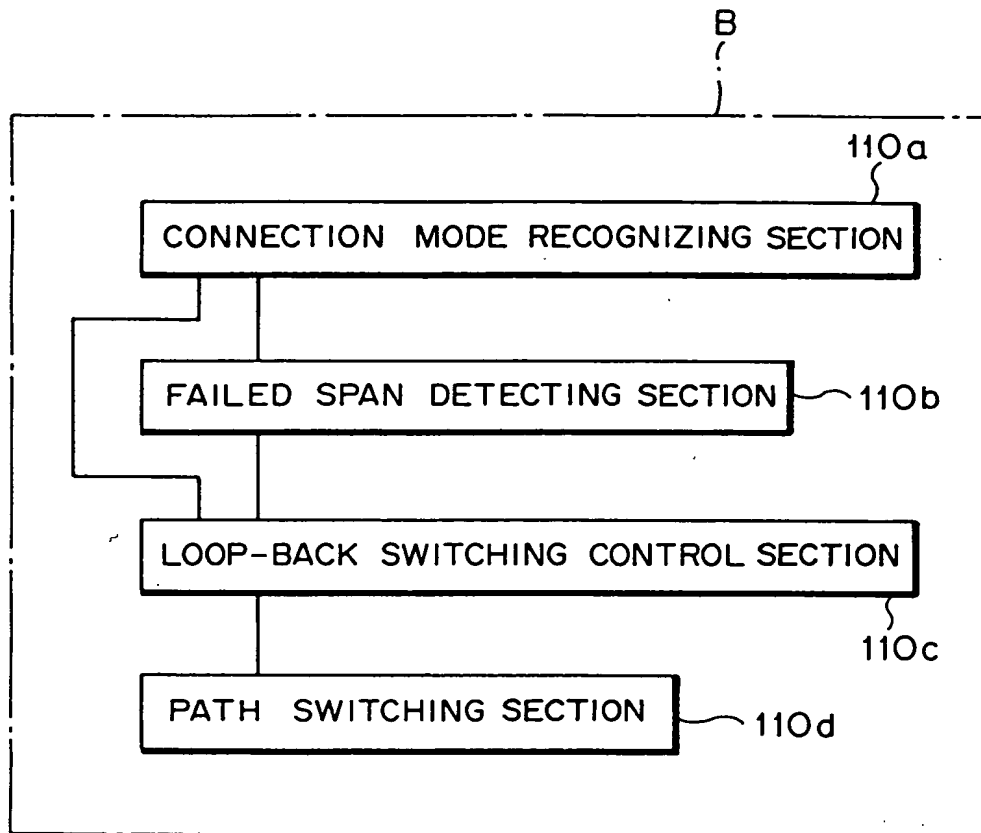


FIG.18



# FIG.19(a)

- RING MAP OF B NODE ( NODE ID = 8 )

	EAST → WEST					
NODE NAME	B	C	D	E	F	A
NODE ID	8	3	1	5	9	6

# FIG.19(b)

- RING MAP OF C NODE ( NODE ID = 3 )

	EAST → WEST					
NODE NAME	C	D	E	F	A	B
NODE ID	3	1	5	9	6	8

FIG. 20

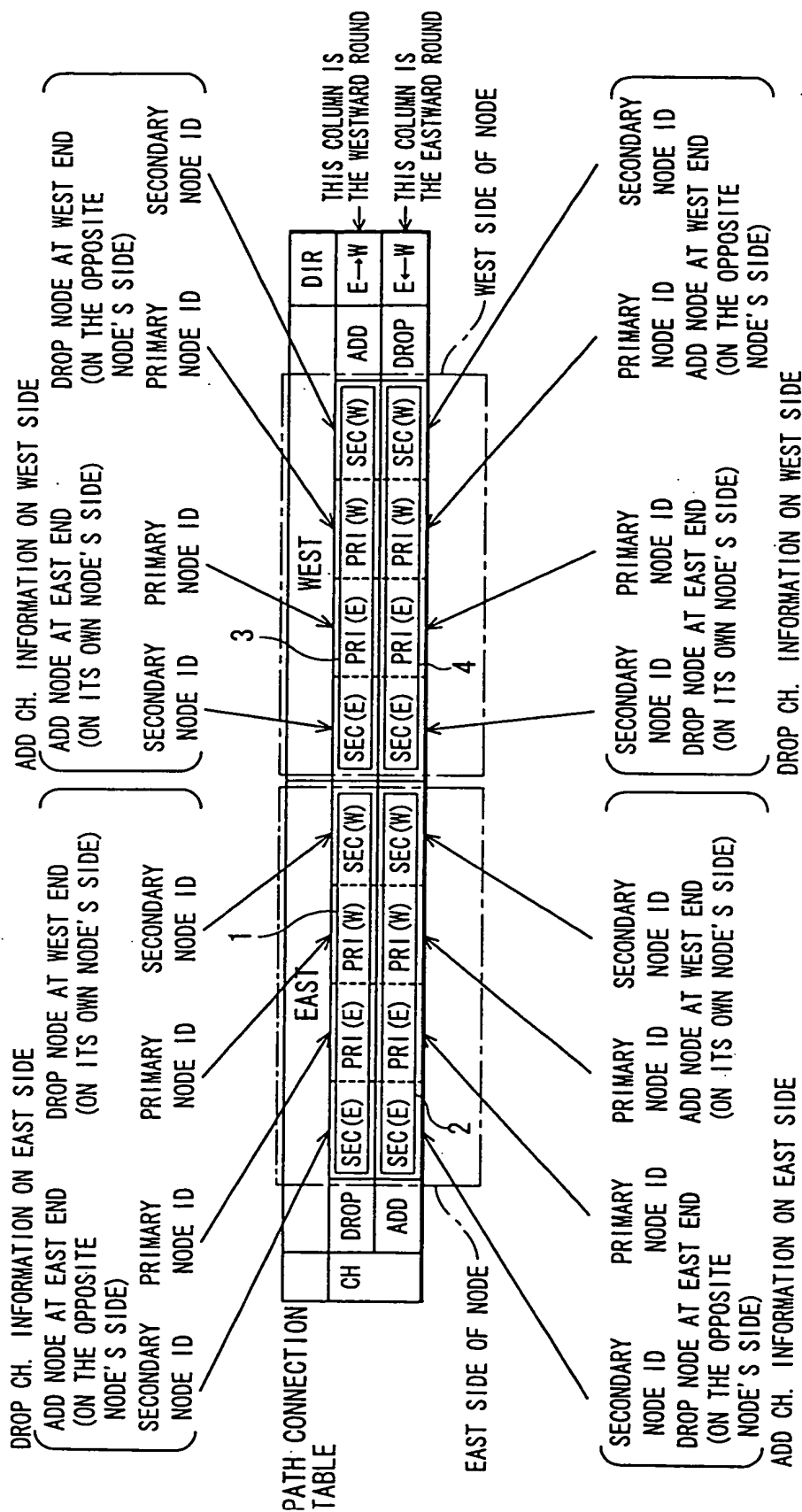
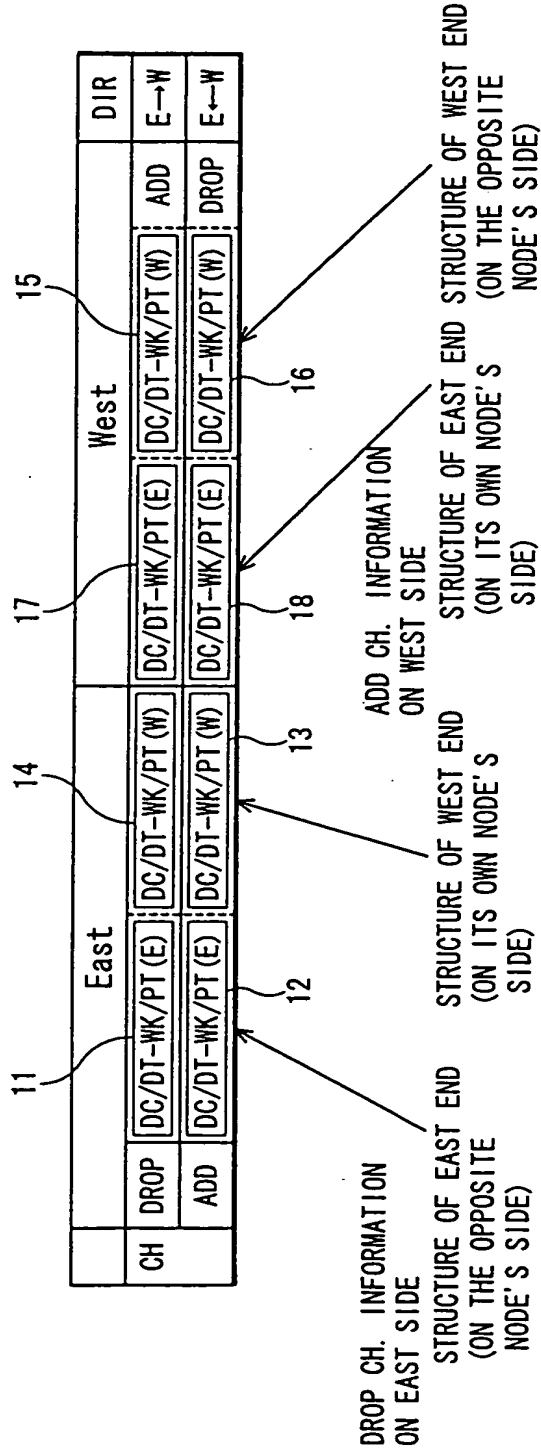


FIG. 21

NETWORK STRUCTURE INFORMATION TABLE (DCP/DTP/DCW/DTW STRUCTURE)



## FIG. 22

FAILURE DETECTION PATTERNS AND OPERATIONS OF NODES (IN THE CASE  
OF DCP)

	Failure detection pattern	Operation of primary node	Operation of secondary node	Corresponding basic operation
a	Failure in working line involving primary node	Only DROP, stop service selector	Access to PTCT line in the opposite direction	(2-α)
b	Failure in working line not involving primary node	Same the above	Access to PTCT line in the opposite direction, set "drop & continue" <sup>1)</sup> , set service selector <sup>1)</sup>	(2-γ)
c	Failure in protection line in the single-sided	Same the above	Stop access to PCA	(1)
d	Failure in a (another) span through which no signal passes	Same the above	Same the above	(1)
e	Failure in protection line in the double-sided	Same the above	Access to PTCT line in the opposite direction	Exception

Comment 1) Operating "drop & continue" and "service selector" at secondary node is Optional Enhanced Operation (GR-1230, Issue 3, Fig. 3-43).

Comment 2) Pattern only in double-sided DCP.

Note) Contents of c and d are equivalent.

004207 "ET956960

## FIG. 23

FAILURE DETECTION PATTERNS AND OPERATIONS OF NODES (IN THE CASE  
OF DTP)

	Failure detection pattern	Operation of terminal node	Operation of secondary node	Corresponding basic operation
a	Failure in working line involving primary node	Stop bridging to PTCT, stop path-switching	Access to PTCT line in the forward direction	(2-α)
b	Failure in working line not involving primary node	Same the above	Access to PTCT line in the forward direction, set "drop & continue" <sup>1)</sup> , set service selector <sup>1)</sup>	(2-γ)
c	Failure in protection line	Same the above	Stop access to PCA	(1)
d	Failure in a (another) span through which no signal passes	Same the above	Same the above	(1)

Comment 1) Operating "drop & continue" and "service selector" at secondary node is Optional Enhanced Operation (GR-1230, Issue 3, Fig. 3-43).

Note) Contents of c and d are equivalent.

Note) Operation of secondary node is to access to PTCT line in the opposite direction in DCP, but to access in the forward direction (direction in which the secondary node originally accesses) in DTP.

FIG. 24(a)

DCP

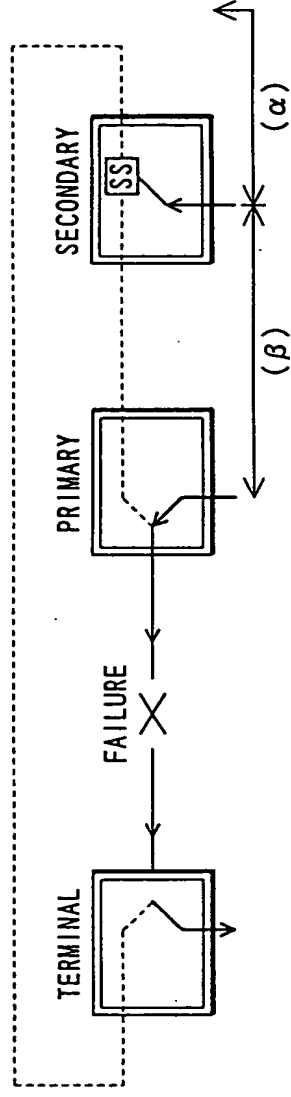


FIG. 24(b)

DTP

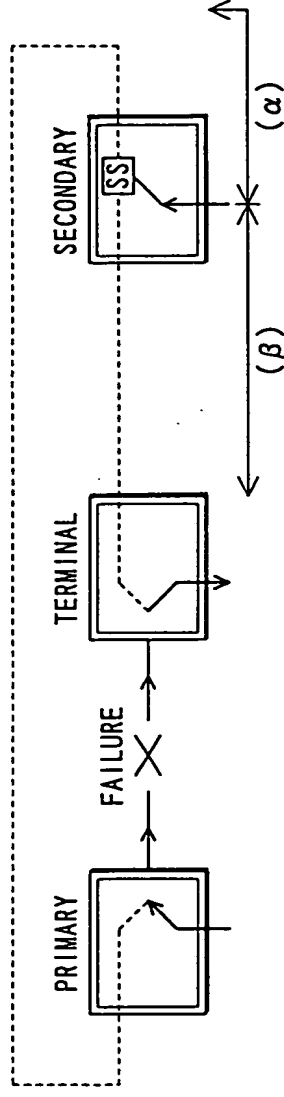


FIG. 24(c)

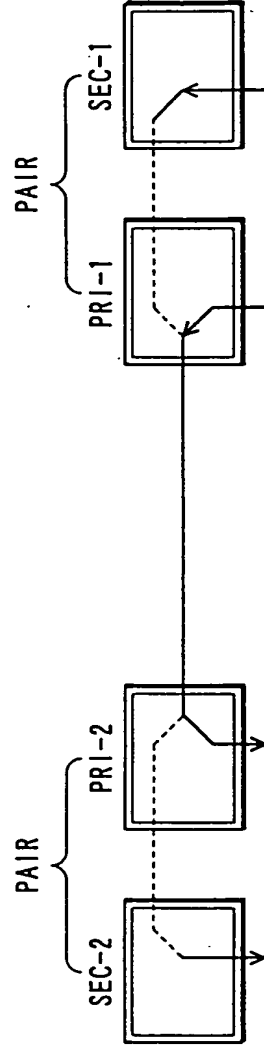




FIG. 25

DCP-DCP (DOUBLE-SIDED DCP) STRUCTURE

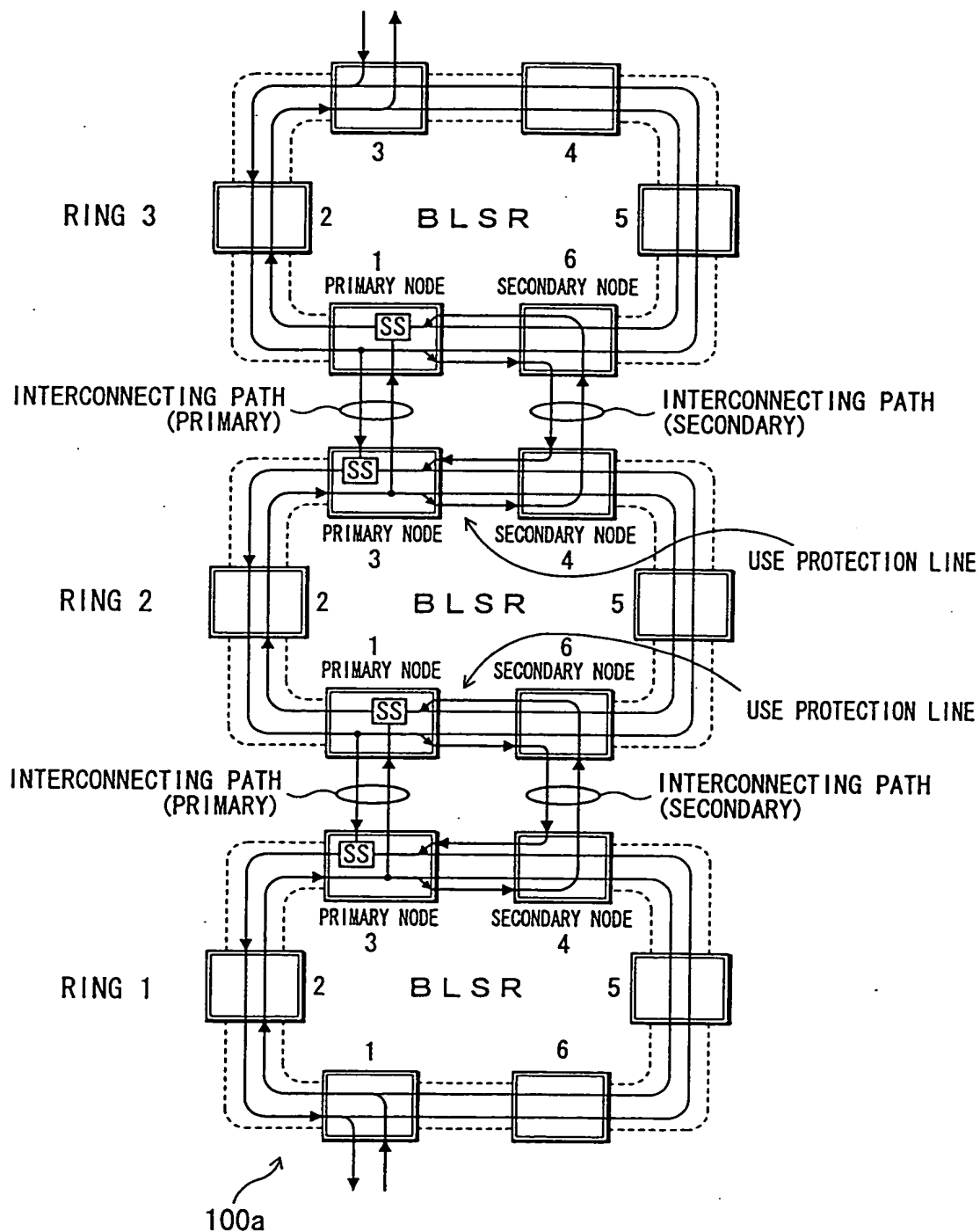


FIG. 26(a)

NORMAL OPERATION

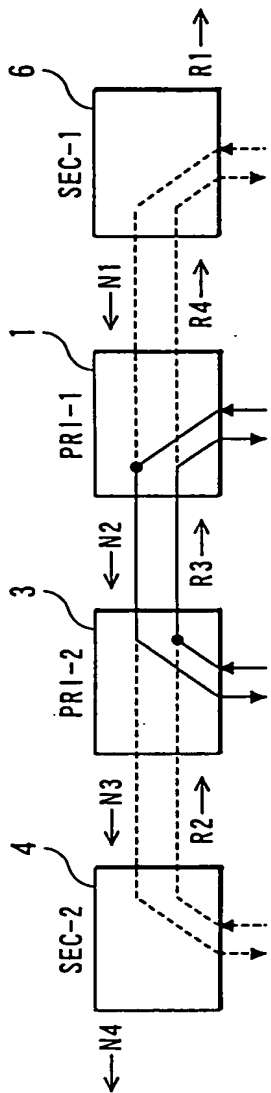


FIG. 26(b)

FAILURE POSITION LOOKED  
FROM SEC-1 N4-R1  
FAILURE POSITION LOOKED  
FROM PRI-1 N4-R1

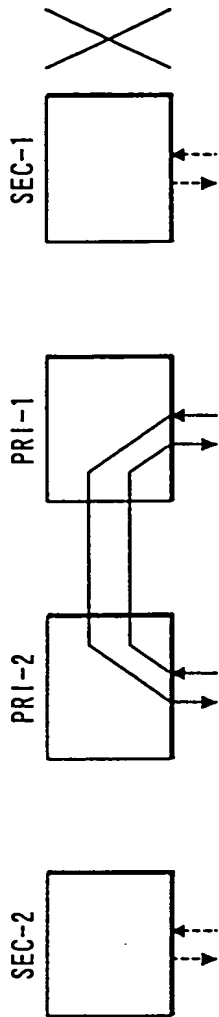


FIG. 26(c)

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R2  
FAILURE POSITION LOOKED  
FROM PRI-1 N3-R4

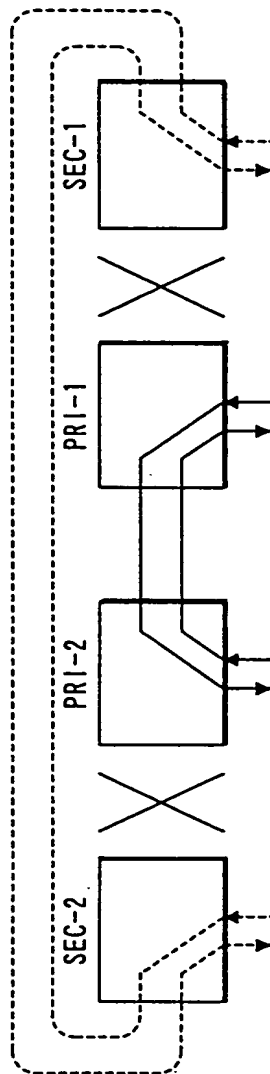


FIG. 27(a)

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R3  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R4

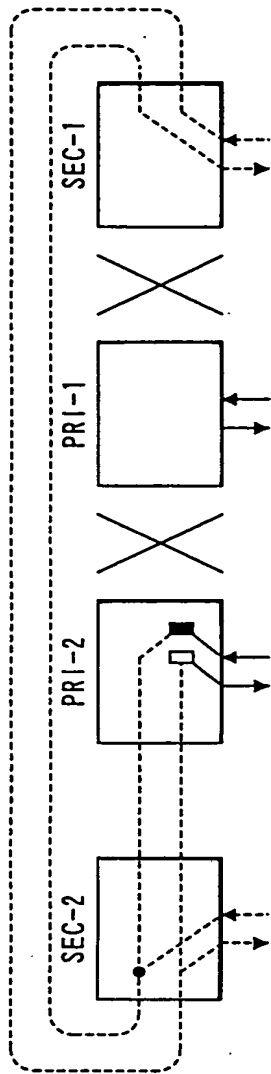


FIG. 27(b)

FAILURE POSITION LOOKED  
FROM SEC-1 N2-R3  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R3

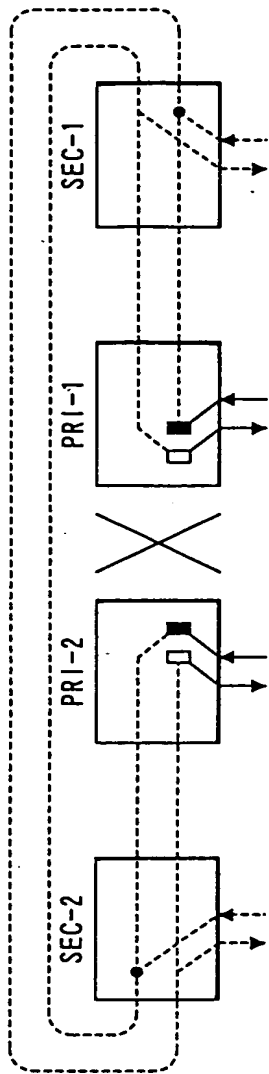
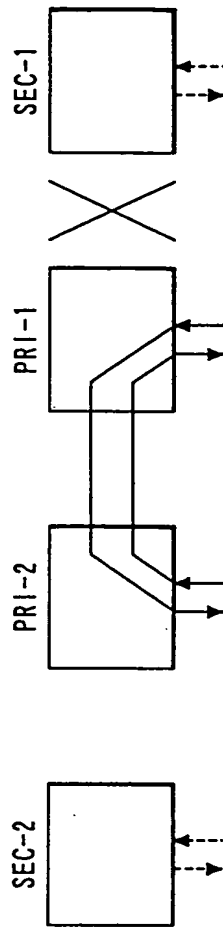


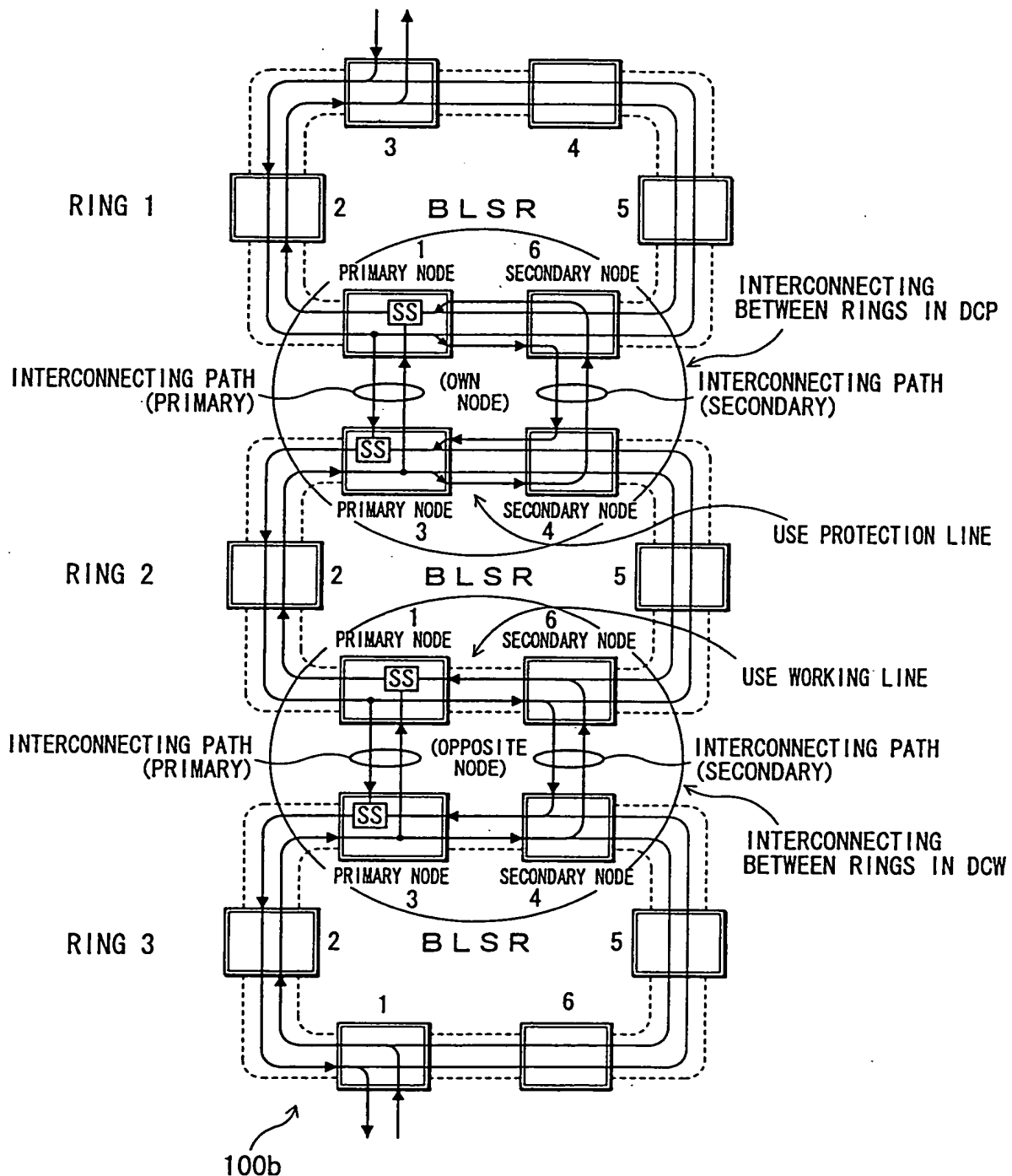
FIG. 27(c)

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R4  
FAILURE POSITION LOOKED  
FROM PRI-1 N1-R4



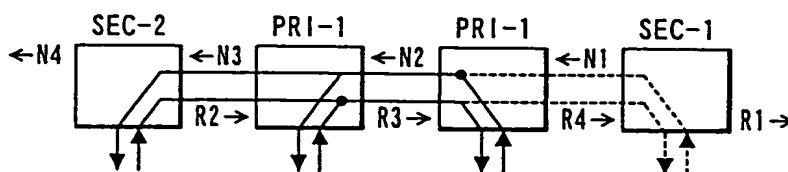
# FIG. 28

## DCP-DCW STRUCTURE



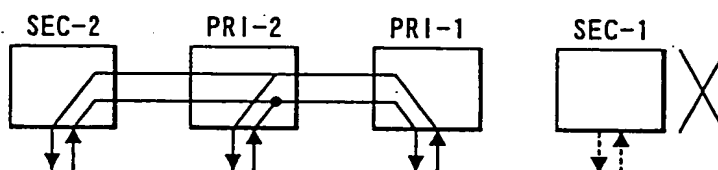
**FIG. 29(a)**

NORMAL OPERATION



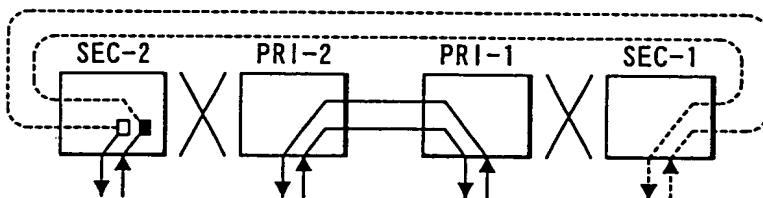
**FIG. 29(b)**

FAILURE POSITION LOOKED  
FROM SEC-1 N4-R1  
FAILURE POSITION LOOKED  
FROM PRI-1 N4-R1



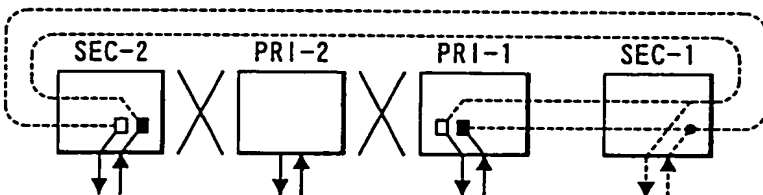
**FIG. 29(c)**

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R2  
FAILURE POSITION LOOKED  
FROM PRI-1 N3-R4



**FIG. 29(d)**

FAILURE POSITION LOOKED  
FROM SEC-1 N2-R2  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R2



**FIG. 29(e)**

FAILURE POSITION LOOKED  
FROM SEC-1 N3-R2  
FAILURE POSITION LOOKED  
FROM PRI-1 N3-R2

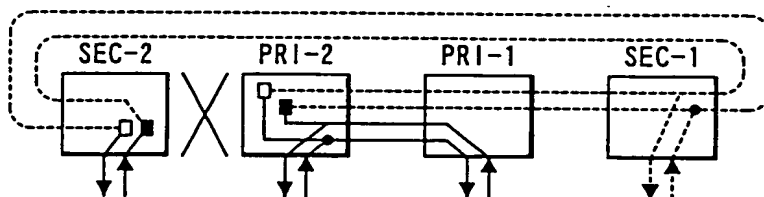


FIG. 30(a)

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R3  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R4

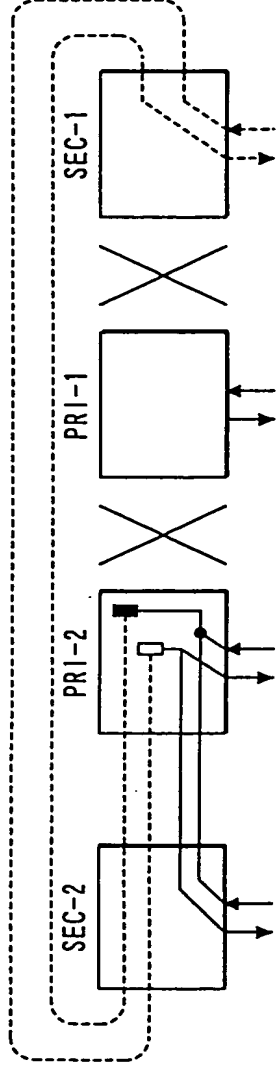


FIG. 30(b)

FAILURE POSITION LOOKED  
FROM SEC-1 N2-R3  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R3

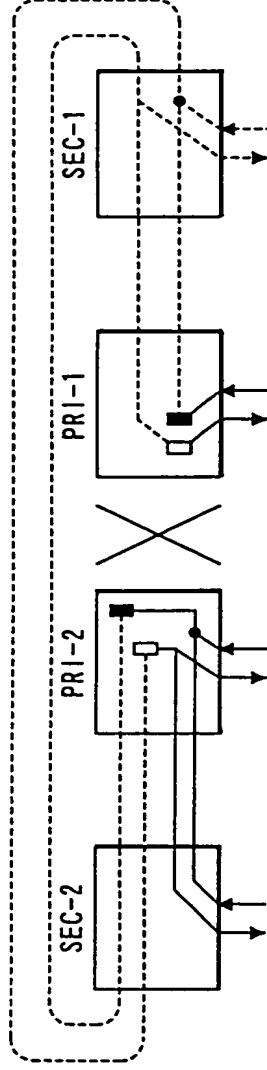


FIG. 30(c)

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R4  
FAILURE POSITION LOOKED  
FROM PRI-1 N1-R4

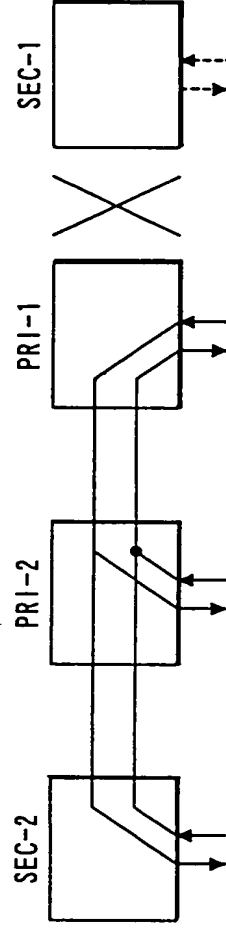


FIG. 31(a) NORMAL OPERATION

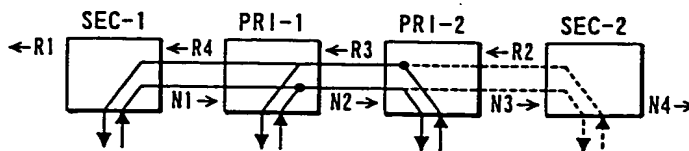


FIG. 31(b) FAILURE POSITION LOOKED FROM SEC-1 N1-R1  
FAILURE POSITION LOOKED FROM PRI-1 N4-R4

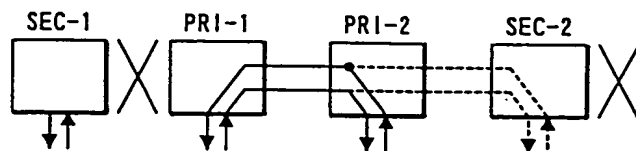


FIG. 31(c) FAILURE POSITION LOOKED FROM SEC-1 N2-R1  
FAILURE POSITION LOOKED FROM PRI-1 N2-R1

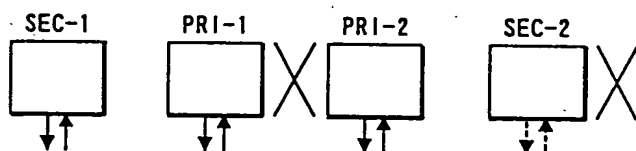


FIG. 31(d) FAILURE POSITION LOOKED FROM SEC-1 N3-R1  
FAILURE POSITION LOOKED FROM PRI-1 N3-R1

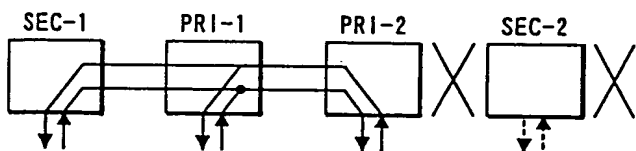


FIG. 31(e) FAILURE POSITION LOOKED FROM SEC-1 N4-R1  
FAILURE POSITION LOOKED FROM PRI-1 N4-R1

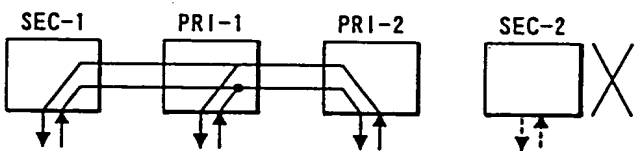


FIG. 31(f) FAILURE POSITION LOOKED FROM SEC-1 N1-R2  
FAILURE POSITION LOOKED FROM PRI-1 N3-R4

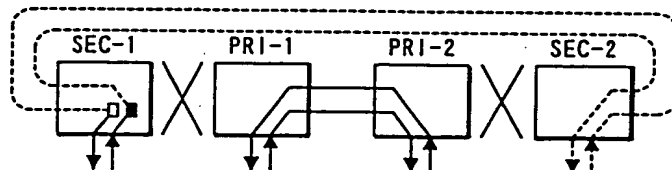


FIG. 31(g) FAILURE POSITION LOOKED FROM SEC-1 N2-R2  
FAILURE POSITION LOOKED FROM PRI-1 N2-R2

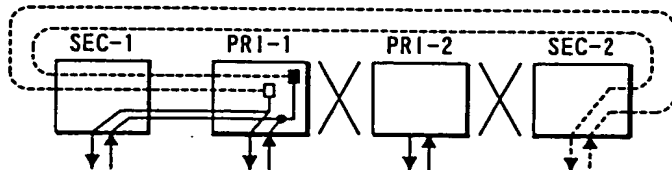


FIG. 31(h) FAILURE POSITION LOOKED FROM SEC-1 N3-R2  
FAILURE POSITION LOOKED FROM PRI-1 N3-R2

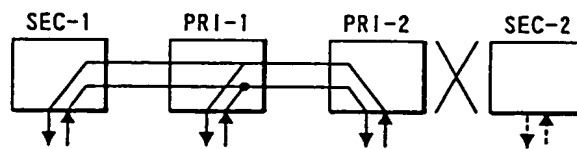
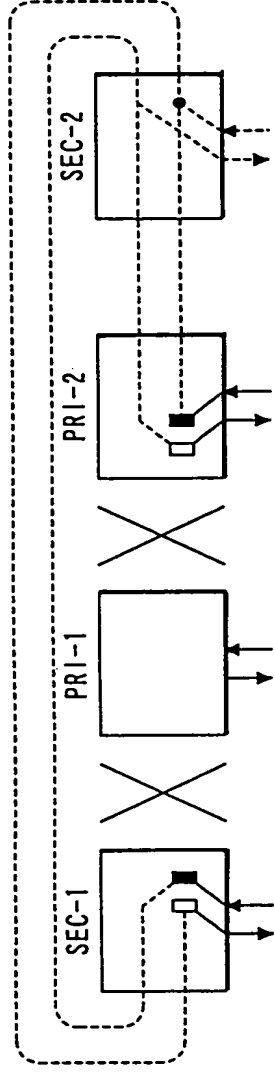
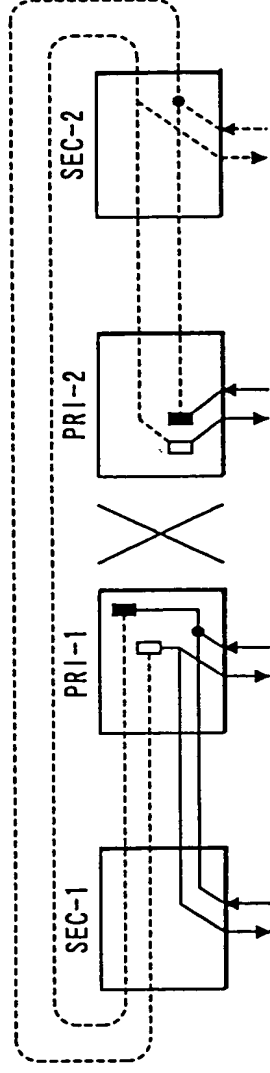


FIG. 32(a)



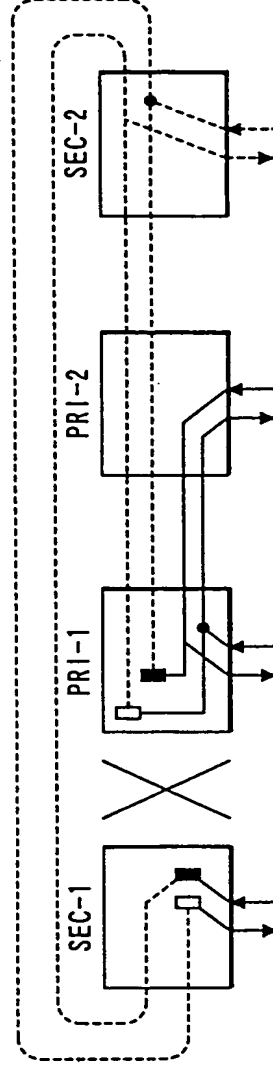
FAILURE POSITION LOOKED  
FROM SEC-1 N1-R3  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R4

FIG. 32(b)



FAILURE POSITION LOOKED  
FROM SEC-1 N2-R3  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R3

FIG. 32(c)



FAILURE POSITION LOOKED  
FROM SEC-1 N1-R4  
FAILURE POSITION LOOKED  
FROM PRI-1 N1-R4



# FIG. 33

## DOUBLE-SIDED DCW STRUCTURE

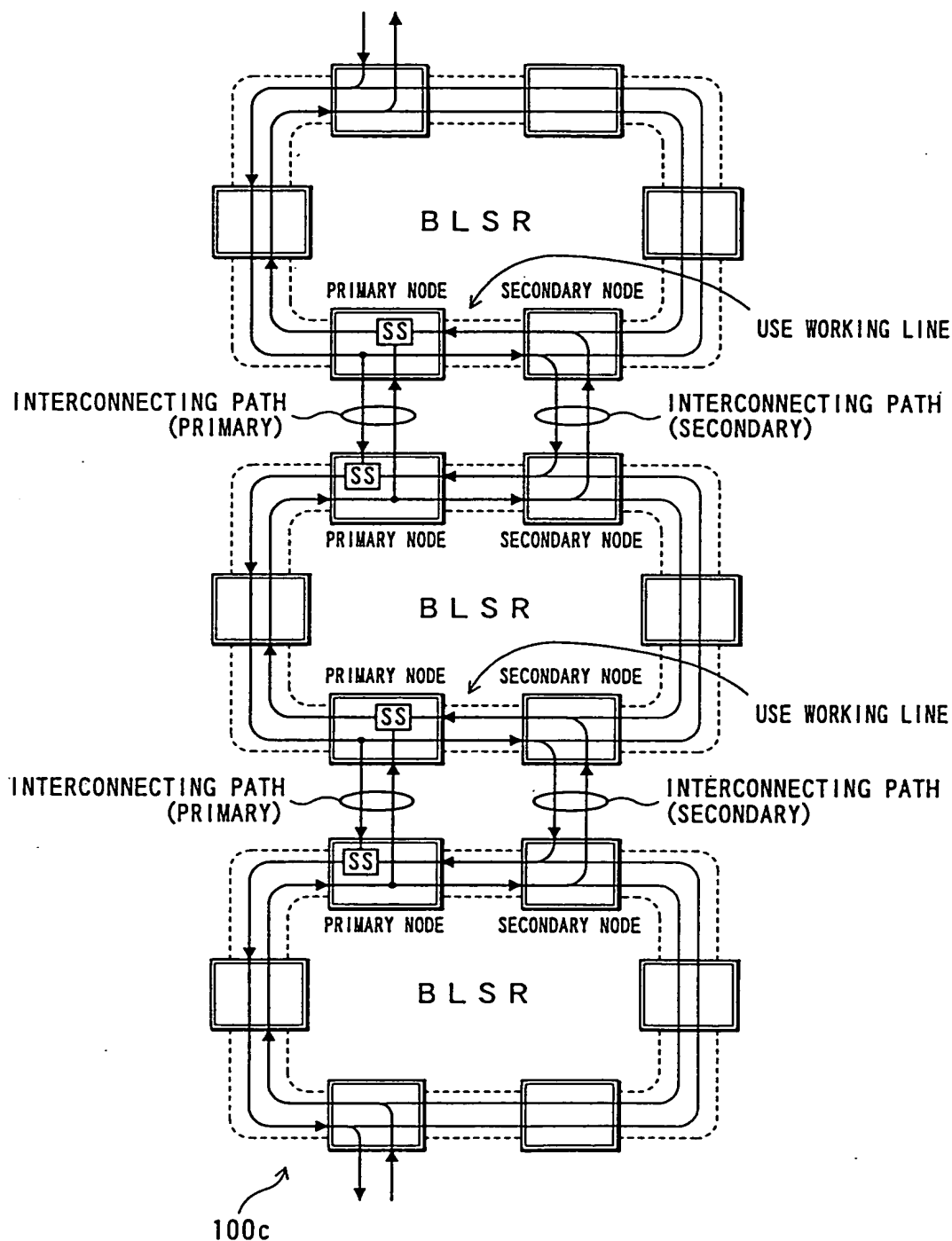


FIG. 34(a) NORMAL OPERATION

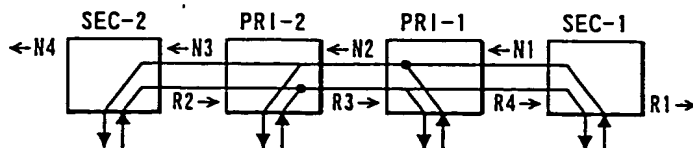


FIG. 34(b)

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R1  
FAILURE POSITION LOOKED  
FROM PRI-1 N4-R4

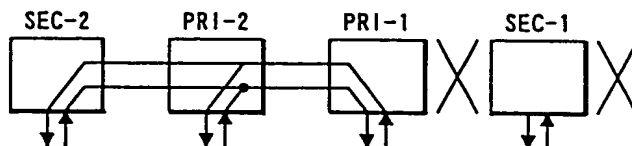


FIG. 34(c)

FAILURE POSITION LOOKED  
FROM SEC-1 N2-R1  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R1

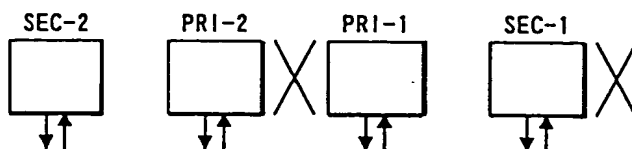


FIG. 34(d)

FAILURE POSITION LOOKED  
FROM SEC-1 N4-R1  
FAILURE POSITION LOOKED  
FROM PRI-1 N3-R1

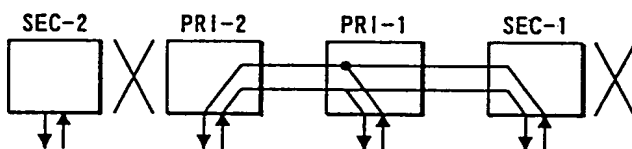


FIG. 34(e)

FAILURE POSITION LOOKED  
FROM SEC-1 N4-R1  
FAILURE POSITION LOOKED  
FROM PRI-1 N4-R1

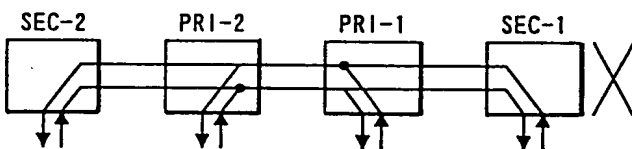


FIG. 34(f)

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R2  
FAILURE POSITION LOOKED  
FROM PRI-1 N3-R4

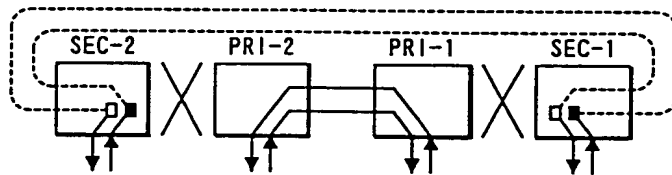


FIG. 34(g)

FAILURE POSITION LOOKED  
FROM SEC-1 N2-R2  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R2

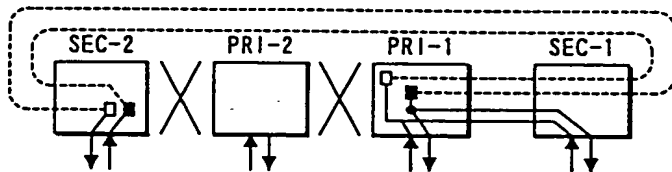


FIG. 34(h)

FAILURE POSITION LOOKED  
FROM SEC-1 N3-R2  
FAILURE POSITION LOOKED  
FROM PRI-1 N3-R2

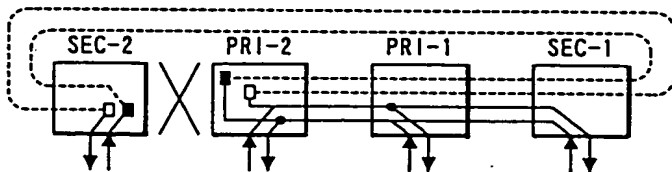


FIG. 35(a)

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R3  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R4

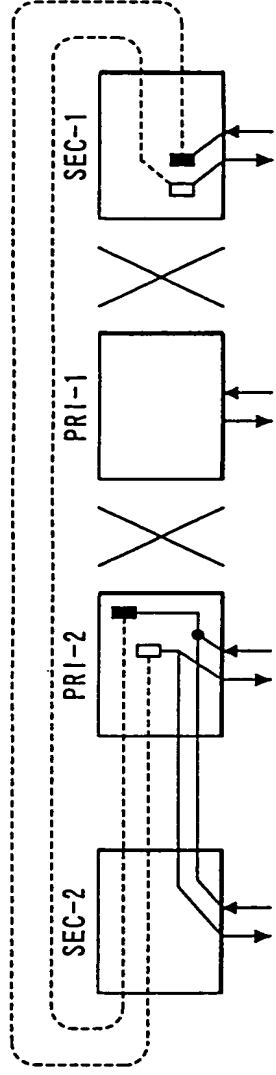


FIG. 35(b)

FAILURE POSITION LOOKED  
FROM SEC-1 N2-R3  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R3

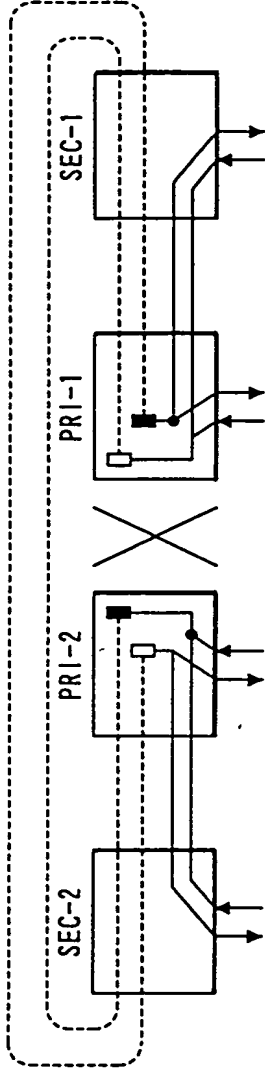
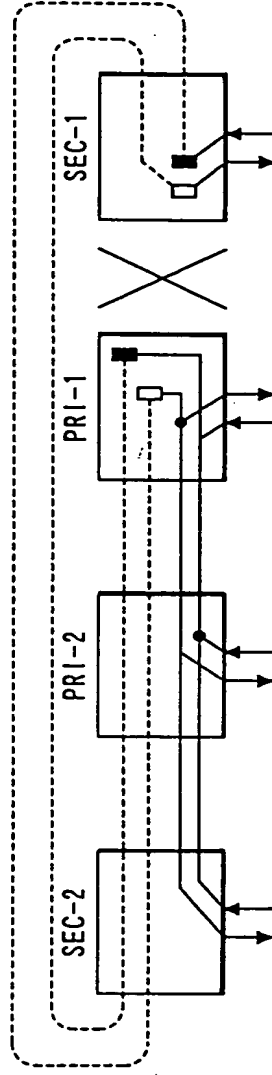


FIG. 35(c)

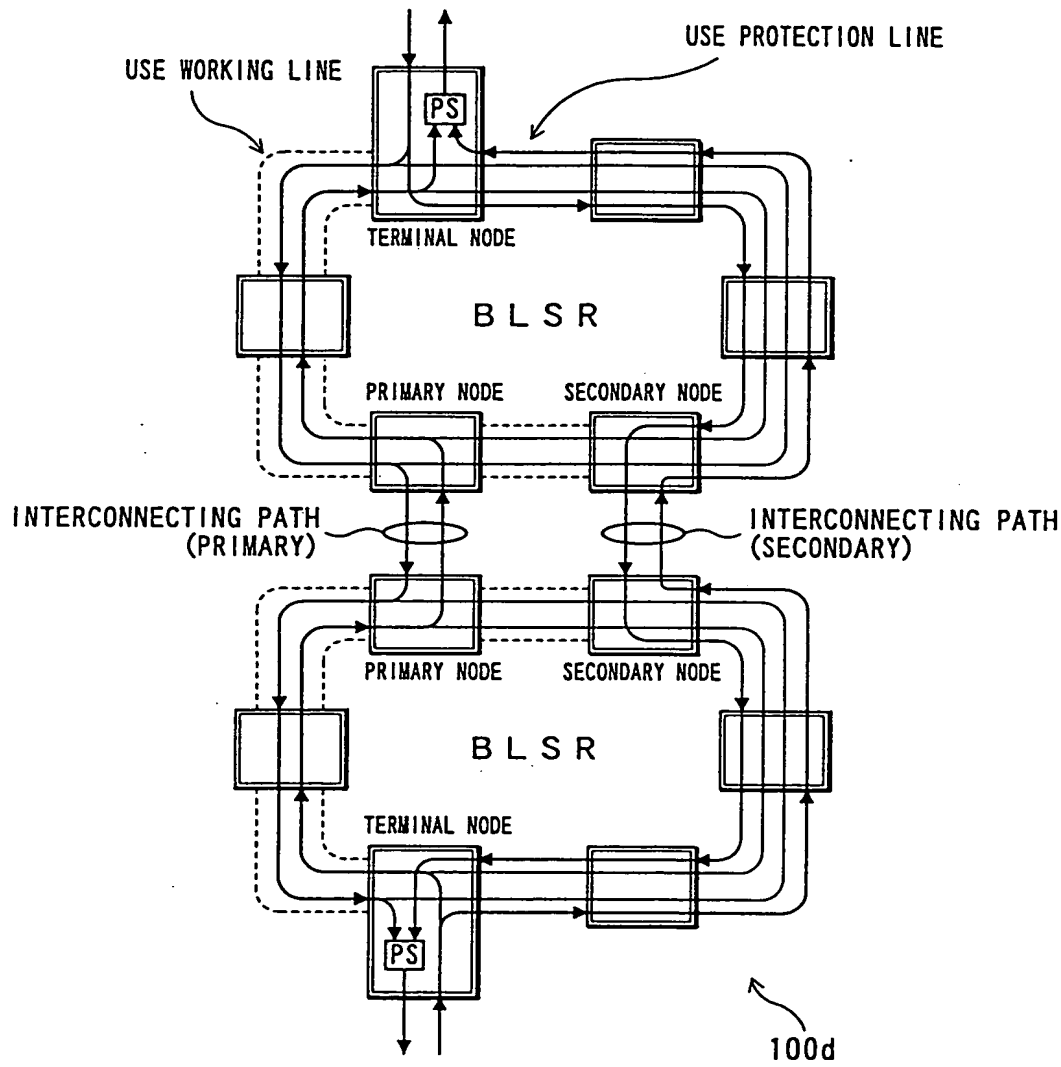
FAILURE POSITION LOOKED  
FROM SEC-1 N1-R4  
FAILURE POSITION LOOKED  
FROM PRI-1 N1-R4



09695613-102400  
004201" CT956960

FIG. 36

DTP STRUCTURE



# FAILURE OPERATION PATTERNS IN DTP (NORMAL BLSR)

FIG. 37(a)

NORMAL OPERATION

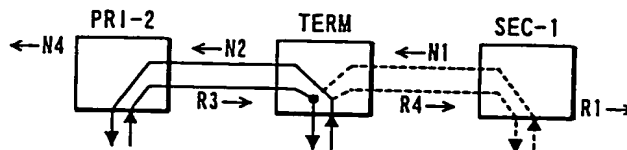


FIG. 37(b)

FAILURE POSITION LOOKED  
FROM SEC-1 N2-R1  
FAILURE POSITION LOOKED  
FROM TERM N2-R1

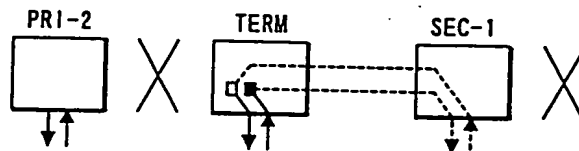


FIG. 37(c)

FAILURE POSITION LOOKED  
FROM SEC-1 N2-R3  
FAILURE POSITION LOOKED  
FROM TERM N2-R3

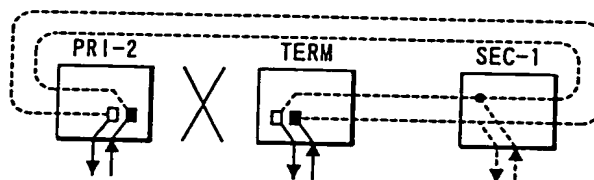


FIG. 37(d)

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R4  
FAILURE POSITION LOOKED  
FROM TERM N1-R4

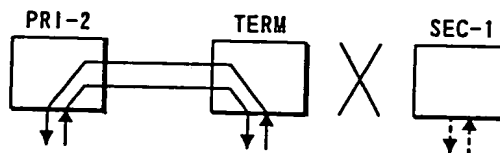


FIG. 37(e)

FAILURE POSITION LOOKED  
FROM SEC-1 N4-R1  
FAILURE POSITION LOOKED  
FROM TERM N4-R1

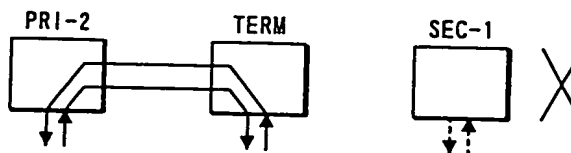


FIG. 38

SINGLE-SIDED DCP STRUCTURE

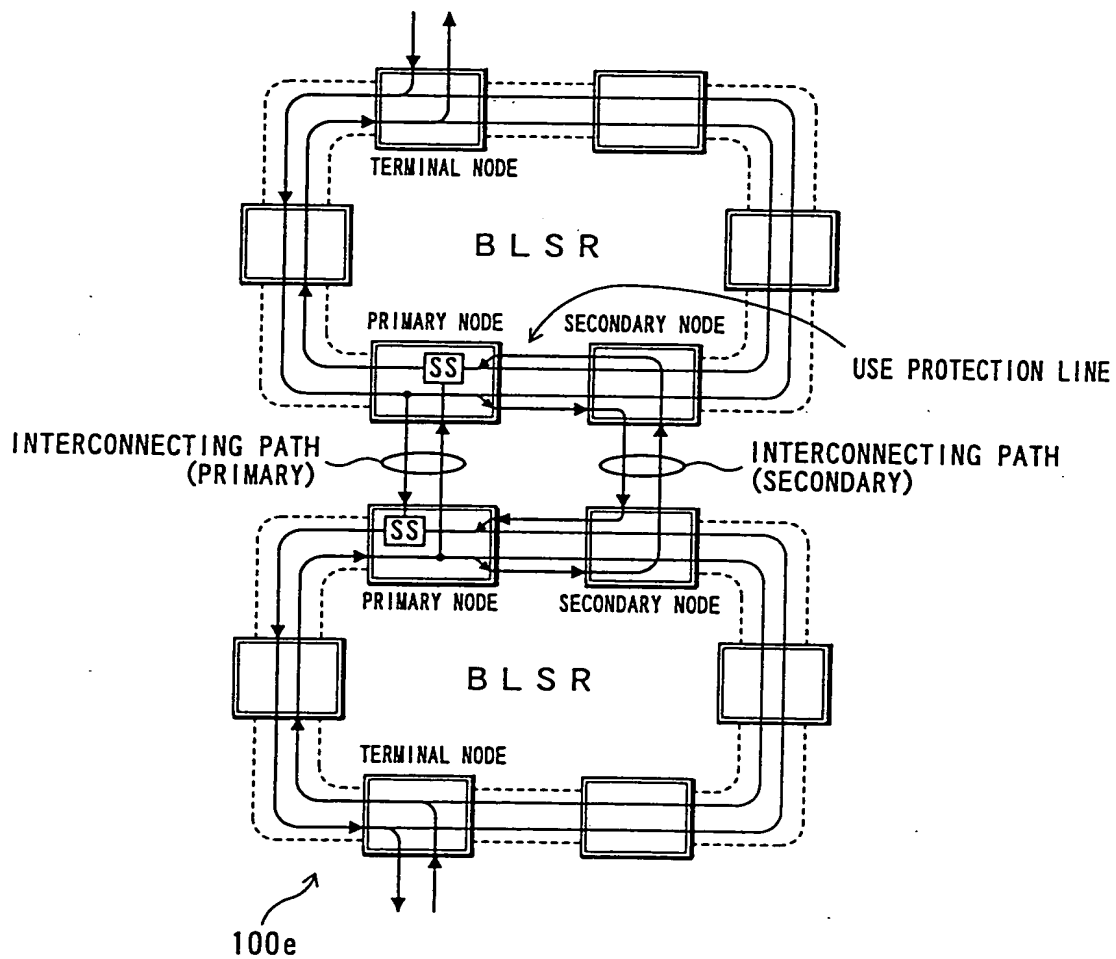


FIG. 39(a)

NORMAL OPERATION

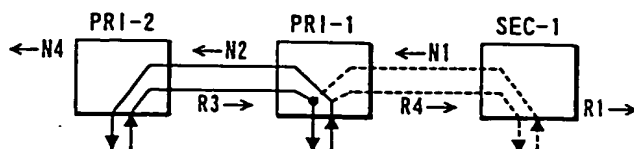


FIG. 39(b)

FAILURE POSITION LOOKED  
FROM SEC-1 N4-R1  
FAILURE POSITION LOOKED  
FROM PRI-1 N4-R1

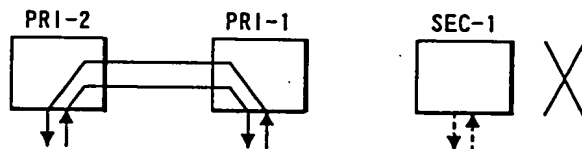


FIG. 39(c)

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R3  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R4

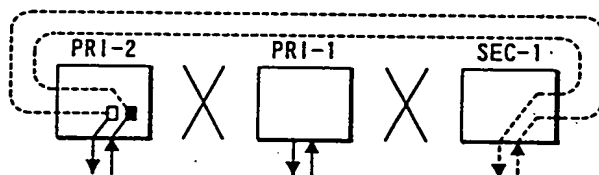


FIG. 39(d)

FAILURE POSITION LOOKED  
FROM SEC-1 N2-R3  
FAILURE POSITION LOOKED  
FROM PRI-1 N2-R3

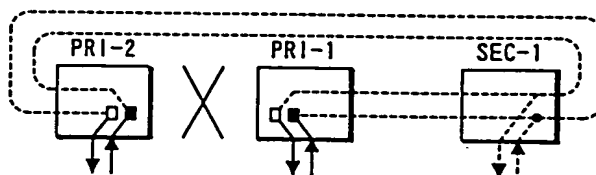
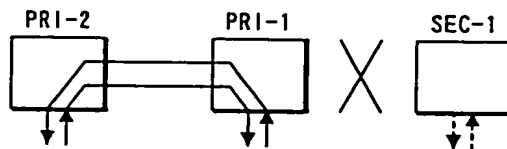


FIG. 39(e)

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R4  
FAILURE POSITION LOOKED  
FROM PRI-1 N1-R4



# FIG. 40

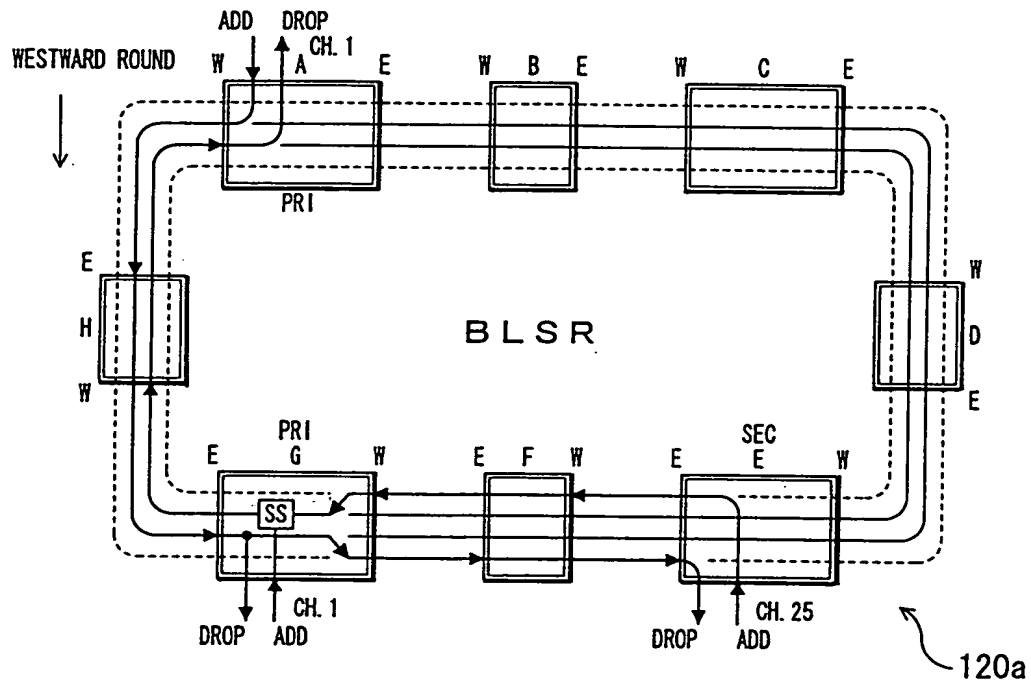
## SINGLE-SIDED DCP STRUCTURE

### NETWORK STRUCTURE[A] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-WK	DC-PT	ADD
ADD			DC-WK	DC-PT	DROP

### PATH CONNECTION TABLE[A] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					A	A	G	E	ADD
ADD					A	A	G	E	DROP



### NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-WK	DC-PT			ADD
ADD	DC-WK	DC-PT			DROP

### PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	A	A	G	E					ADD
ADD	A	A	G	E					DROP

### NETWORK STRUCTURE[E] CH. 25

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-WK	DC-PT			ADD
ADD	DC-WK	DC-PT			DROP

### PATH CONNECTION TABLE[E] CH. 25

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	A	A	G	E					ADD
ADD	A	A	G	E					DROP



# FIG. 41

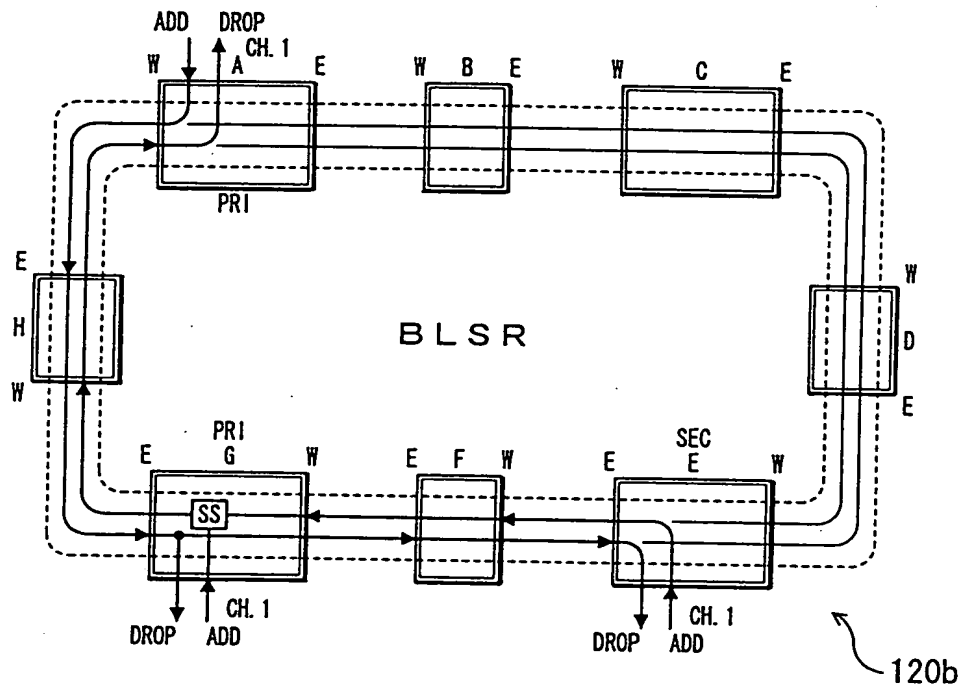
## SINGLE-SIDED DCW STRUCTURE

### NETWORK STRUCTURE[A] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-WK	DC-WK	ADD
ADD			DC-WK	DC-WK	DROP

### PATH CONNECTION TABLE[A] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					A	A	G	E	ADD
ADD					A	A	G	E	DROP



### NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-WK	DC-WK			ADD
ADD	DC-WK	DC-WK			DROP

### PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	A	A	G	E					ADD
ADD	A	A	G	E					DROP

### NETWORK STRUCTURE[E] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-WK	DC-WK			ADD
ADD	DC-WK	DC-WK			DROP

### PATH CONNECTION TABLE[E] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	A	A	G	E					ADD
ADD	A	A	G	E					DROP

# FIG. 42

## DCP-DCP STRUCTURE

### NETWORK STRUCTURE[A] CH. 1

	EAST	WEST	
	E END:W END	E END:W END	
DROP		DC-PT:DC-PT	ADD
ADD		DC-PT:DC-PT	DROP

### PATH CONNECTION TABLE[A] CH. 1

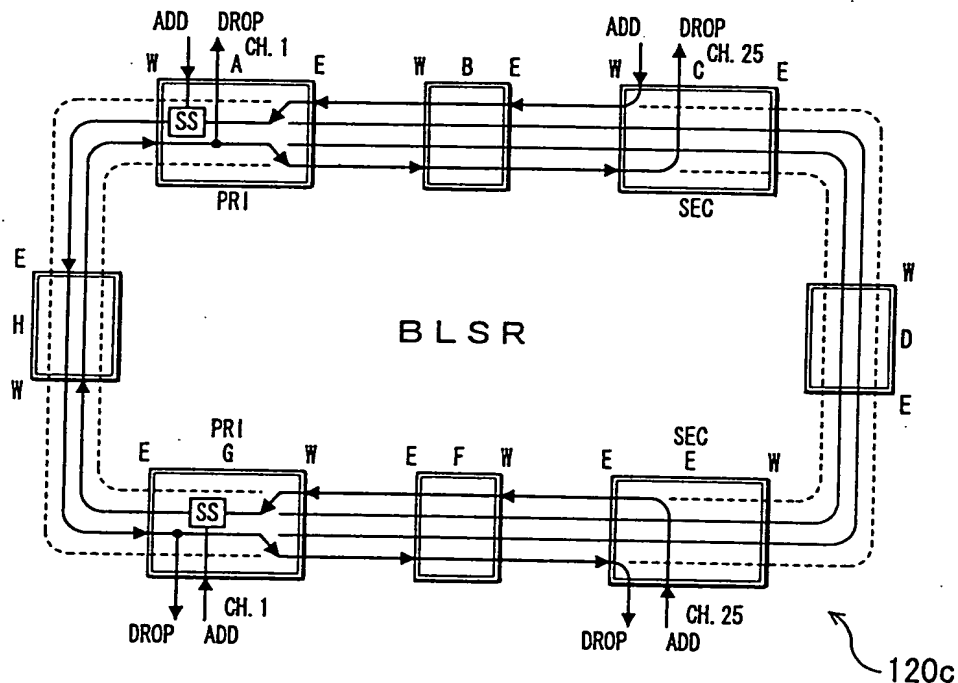
	EAST	WEST	
	S-E:P-E:P-W:S-W	S-E:P-E:P-W:S-W	
DROP		C A G E	ADD
ADD		C A G E	DROP

### NETWORK STRUCTURE[G] CH. 25

	EAST	WEST	
	E END:W END	E END:W END	
DROP		DC-PT:DC-PT	ADD
ADD		DC-PT:DC-PT	DROP

### PATH CONNECTION TABLE[C] CH. 25

	EAST	WEST	
	S-E:P-E:P-W:S-W	S-E:P-E:P-W:S-W	
DROP		C A G E	ADD
ADD		C A G E	DROP



### NETWORK STRUCTURE[G] CH. 1

	EAST	WEST	
	E END:W END	E END:W END	
DROP	DC-PT:DC-PT		ADD
ADD	DC-PT:DC-PT		DROP

### PATH CONNECTION TABLE[G] CH. 1

	EAST	WEST	
	S-E:P-E:P-W:S-W	S-E:P-E:P-W:S-W	
DROP	C A G E		ADD
ADD	C A G E		DROP

### NETWORK STRUCTURE[E] CH. 25

	EAST	WEST	
	E END:W END	E END:W END	
DROP	DC-PT:DC-PT		ADD
ADD	DC-PT:DC-PT		DROP

### PATH CONNECTION TABLE[E] CH. 25

	EAST	WEST	
	S-E:P-E:P-W:S-W	S-E:P-E:P-W:S-W	
DROP	C A G E		ADD
ADD	C A G E		DROP



# FIG. 44

## DCW-DCW STRUCTURE

### NETWORK STRUCTURE[A] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-WK	DC-WK	ADD
ADD			DC-WK	DC-WK	DROP

### NETWORK STRUCTURE[C] CH. 1

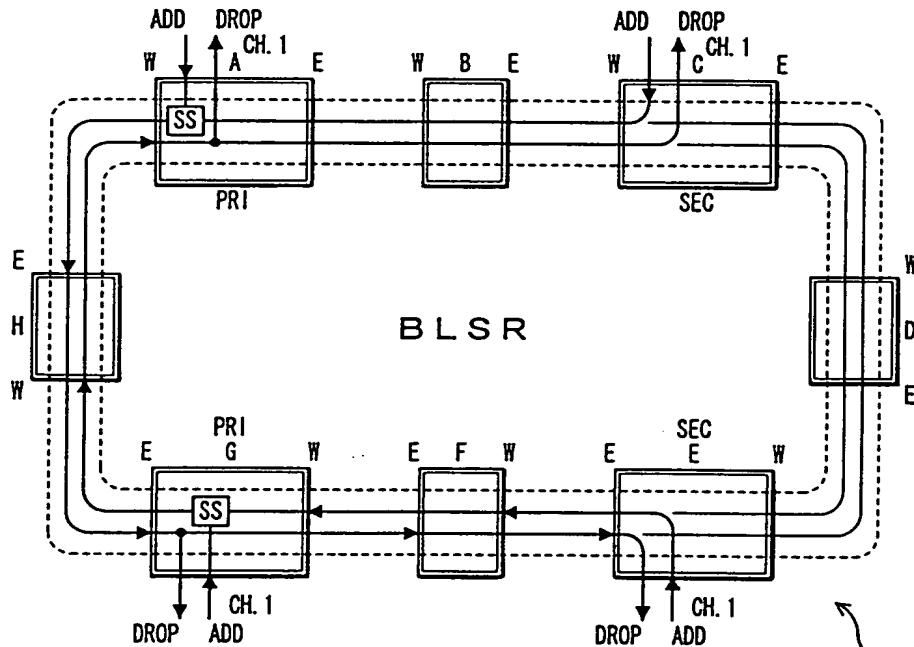
	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-WK	DC-WK	ADD
ADD			DC-WK	DC-WK	DROP

### PATH CONNECTION TABLE[A] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP

### PATH CONNECTION TABLE[C] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP



120e

### NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-WK	DC-WK			ADD
ADD	DC-WK	DC-WK			DROP

### NETWORK STRUCTURE[E] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-WK	DC-WK			ADD
ADD	DC-WK	DC-WK			DROP

### PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

### PATH CONNECTION TABLE[E] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

# FIG. 45

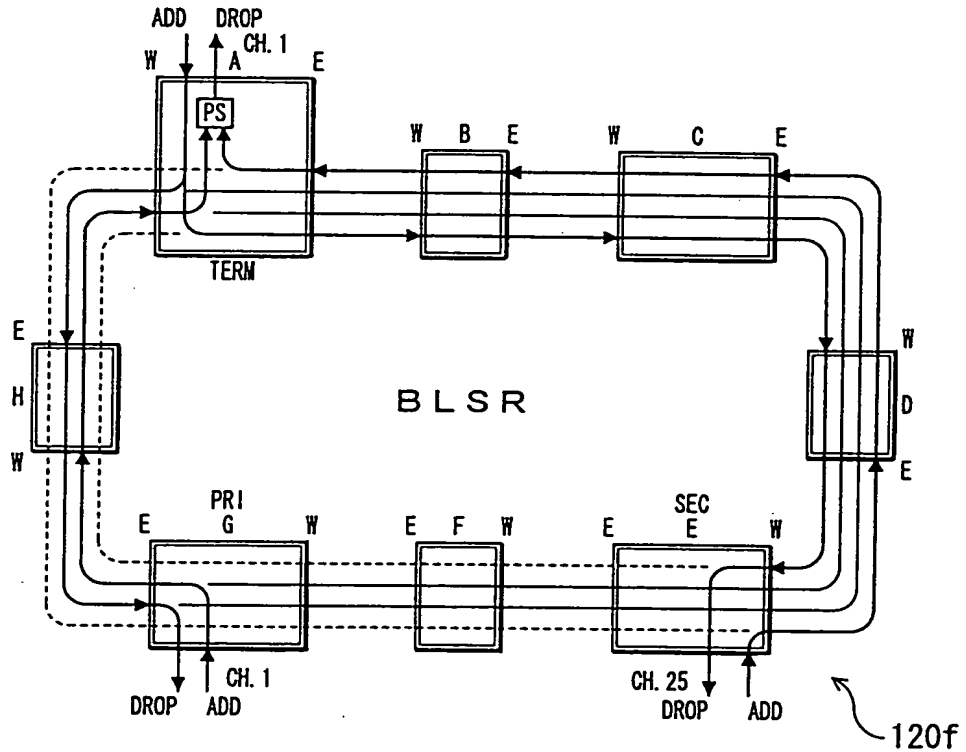
## DTP STRUCTURE

### NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DT-PT	DT-WK	ADD
ADD			DT-PT	DT-WK	DROP

### PATH CONNECTION TABLE[A] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					E	A	G	G	ADD
ADD					E	A	G	G	DROP



### NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DT-PT	DT-WK			ADD
ADD	DT-PT	DT-WK			DROP

### PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	E	A	G	G					ADD
ADD	E	A	G	G					DROP

### NETWORK STRUCTURE[E] CH. 25

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DT-PT	DT-WK	ADD
ADD			DT-PT	DT-WK	DROP

### PATH CONNECTION TABLE[E] CH. 25

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					E	A	G	G	ADD
ADD					E	A	G	G	DROP

# FIG. 46

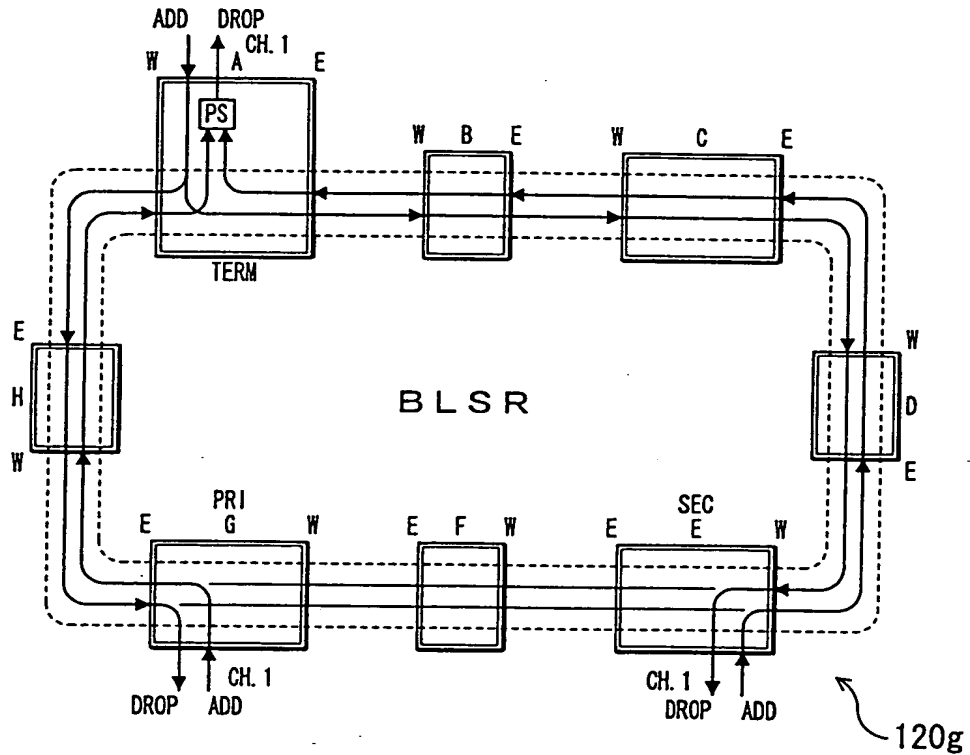
## DTW STRUCTURE

### NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DT-WK	DT-WK	ADD
ADD			DT-WK	DT-WK	DROP

### PATH CONNECTION TABLE[A] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					E	A	G	G	ADD
ADD					E	A	G	G	DROP



### NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DT-WK	DT-WK			ADD
ADD	DT-WK	DT-WK			DROP

### PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	E	A	G	G					ADD
ADD	E	A	G	G					DROP

### NETWORK STRUCTURE[E] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DT-WK	DT-WK	ADD
ADD			DT-WK	DT-WK	DROP

### PATH CONNECTION TABLE[E] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					E	A	G	G	ADD
ADD					E	A	G	G	DROP

# FIG. 47

## DCP-DCP STRUCTURE

### NETWORK STRUCTURE[A] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-PT	DC-PT	ADD
ADD			DC-PT	DC-PT	DROP

### NETWORK STRUCTURE[C] CH. 25

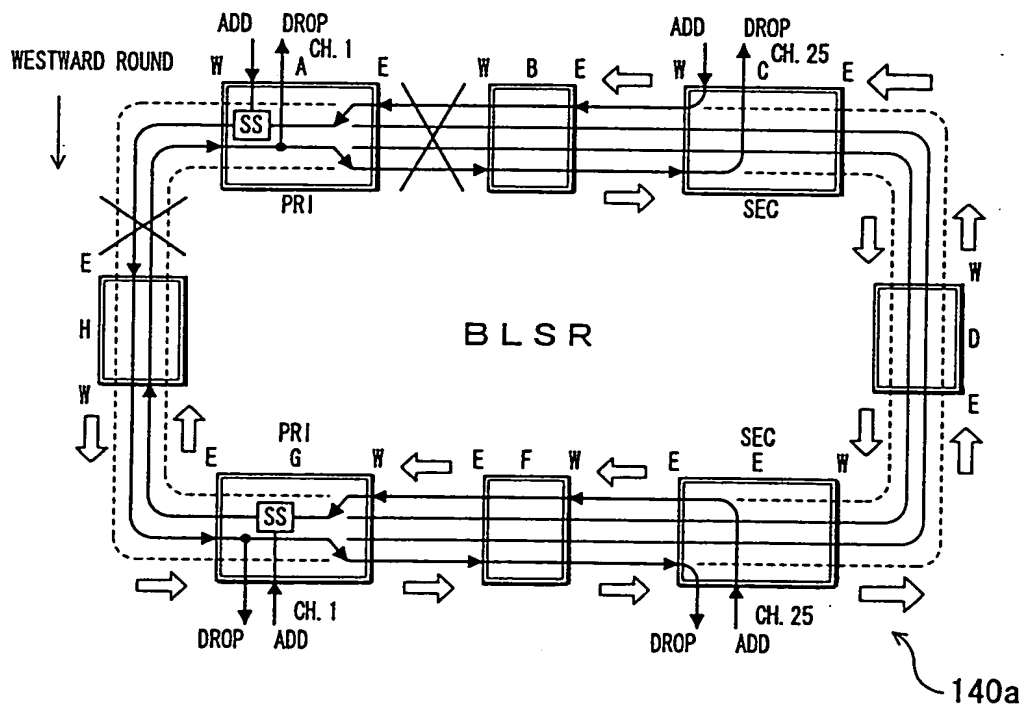
	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-PT	DC-PT	ADD
ADD			DC-PT	DC-PT	DROP

### PATH CONNECTION TABLE[A] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP

### PATH CONNECTION TABLE[C] CH. 25

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP



### NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-PT	DC-PT			ADD
ADD	DC-PT	DC-PT			DROP

### NETWORK STRUCTURE[E] CH. 25

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-PT	DC-PT			ADD
ADD	DC-PT	DC-PT			DROP

### PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

### PATH CONNECTION TABLE[E] CH. 25

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

# FIG. 48

## DCP-DCP STRUCTURE

### NETWORK STRUCTURE[A] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-PT	DC-PT	ADD
ADD			DC-PT	DC-PT	DROP

### PATH CONNECTION TABLE[A] CH. 1

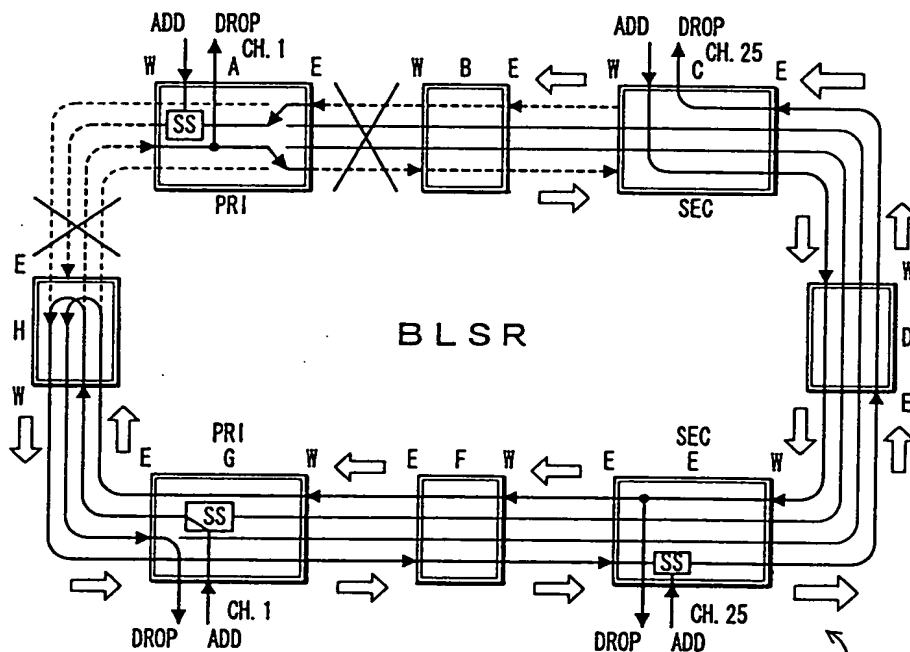
	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP

### NETWORK STRUCTURE[C] CH. 25

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-PT	DC-PT	ADD
ADD			DC-PT	DC-PT	DROP

### PATH CONNECTION TABLE[C] CH. 25

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP



### NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-PT	DC-PT			ADD
ADD	DC-PT	DC-PT			DROP

### PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

### NETWORK STRUCTURE[E] CH. 25

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-PT	DC-PT			ADD
ADD	DC-PT	DC-PT			DROP

### PATH CONNECTION TABLE[E] CH. 25

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

NORMAL LOOP-BACK: NORMAL-BLSR

004201" ET956960



FIG. 49(a)

NORMAL STATE

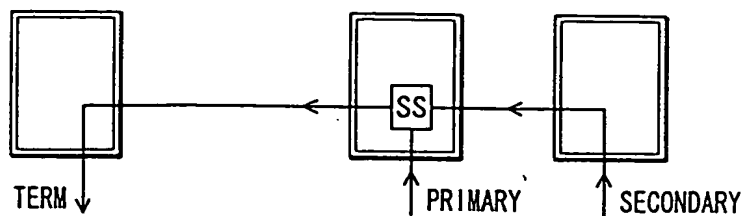


FIG. 49(b)

AT THE TIME OF FAILURE OCCURRENCE

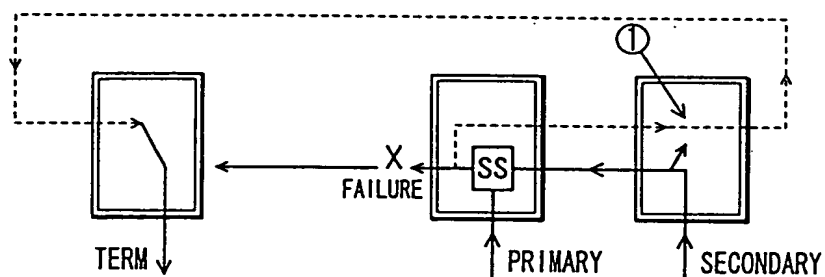


FIG. 49(c)

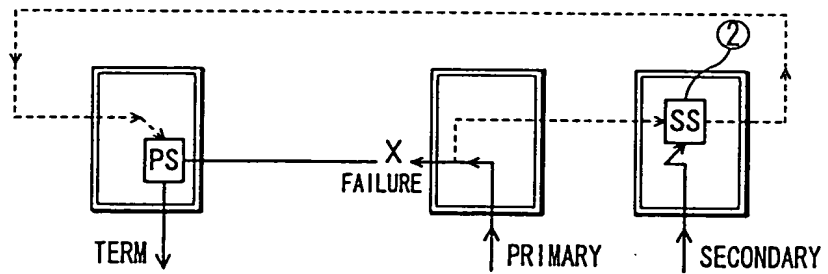


FIG. 49(d)

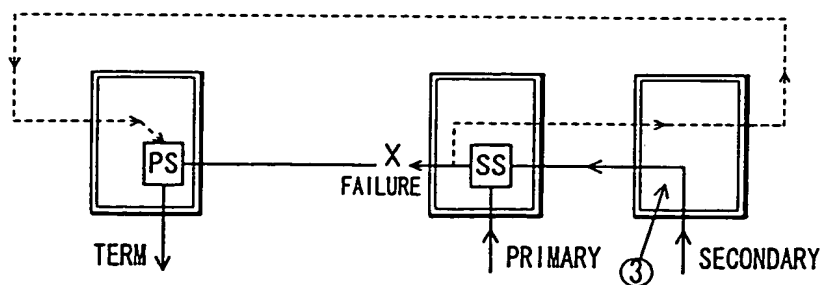


FIG. 50(a)

NORMAL STATE

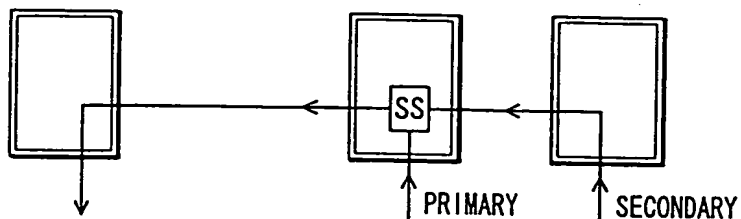


FIG. 50(b)

AT THE TIME OF FAILURE OCCURRENCE

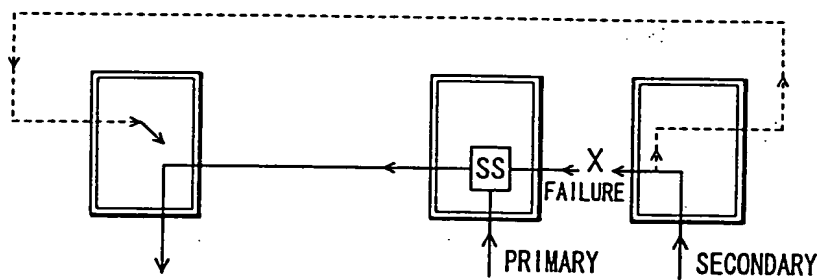
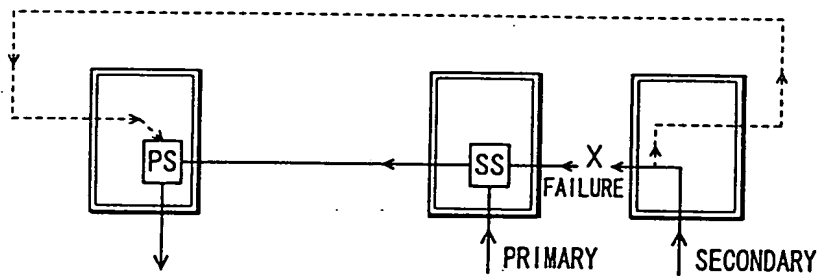


FIG. 50(c)

RESTORATION MEASURE



PATH SWITCH FUNCTION IS  
NECESSARY HERE  
(OPERATION AS A TERMINAL IN DTP)

**FIG. 51(a)**

FIG. 52(a)

NORMAL OPERATION

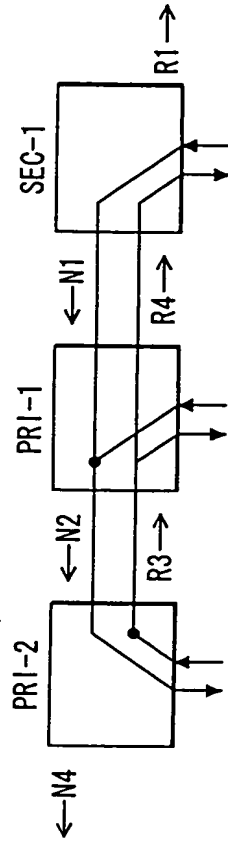


FIG. 52(b)

FAILURE POSITION LOOKED  
FROM SEC-1 N1-R4  
FAILURE POSITION LOOKED  
FROM PRI-1 N1-R4

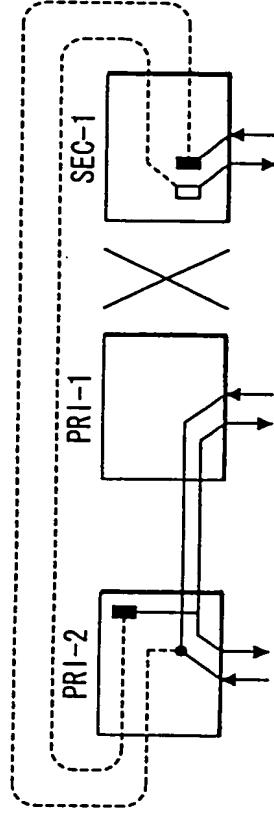
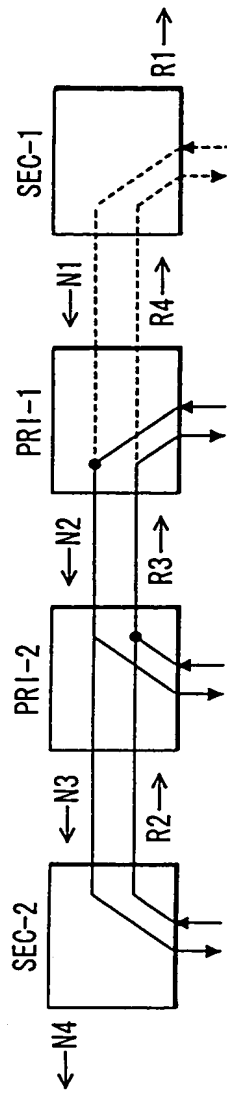
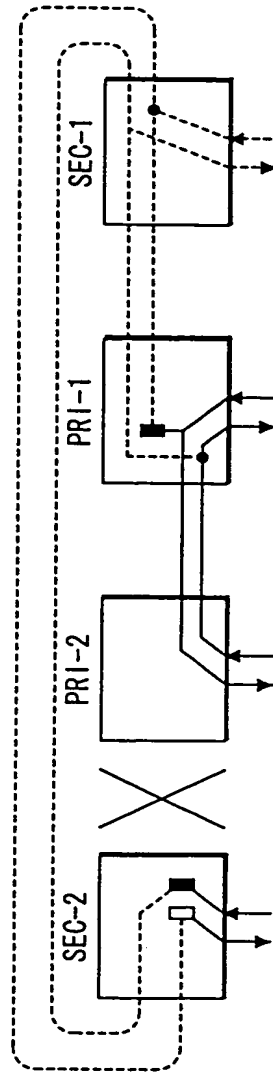


FIG. 53(a)



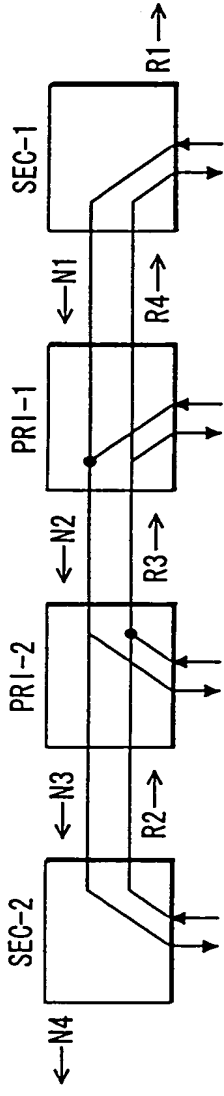
NORMAL OPERATION

FIG. 53(b)



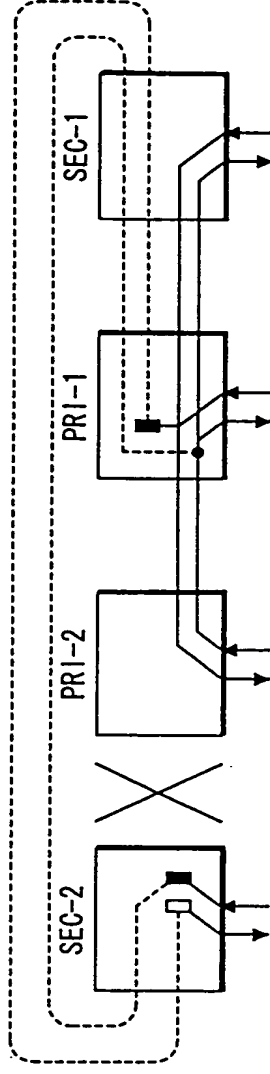
FAILURE POSITION LOOKED  
FROM SEC-1 N3-R2  
FAILURE POSITION LOOKED  
FROM PRI-1 N3-R2

FIG. 54(a)



NORMAL OPERATION

FIG. 54(b)



FAILURE POSITION LOOKED  
FROM SEC-1 N3-R2  
FAILURE POSITION LOOKED  
FROM PRI-1 N3-R2

**06-01-2017**

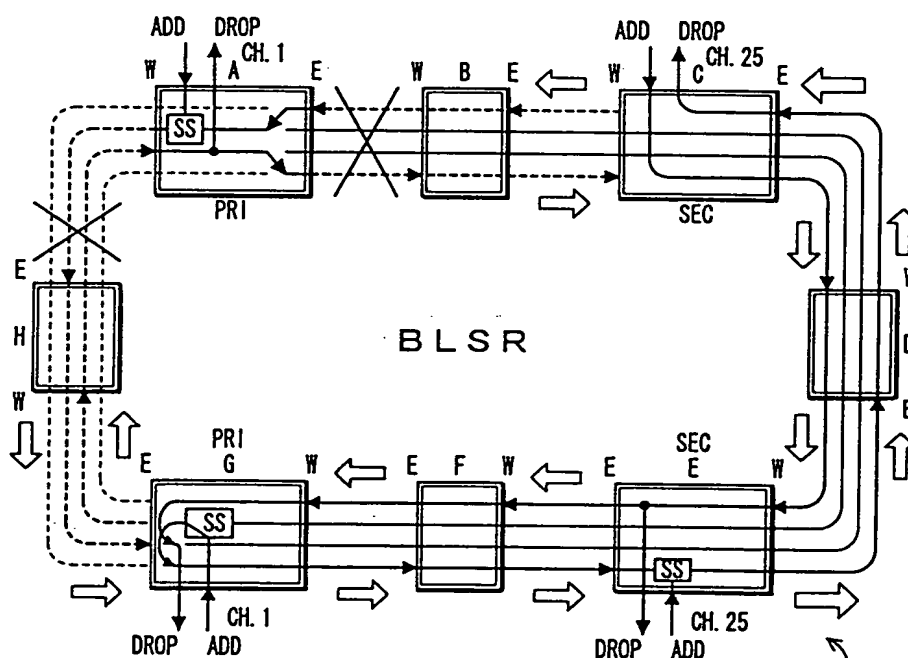
NETWORK STRUCTURE[A] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-PT	DC-PT	ADD
ADD			DC-PT	DC-PT	DROP

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-PT	DC-PT	ADD
ADD			DC-PT	DC-PT	DROP

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP



	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-PT	DC-PT			ADD
ADD	DC-PT	DC-PT			DROP

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-PT	DC-PT			ADD
ADD	DC-PT	DC-PT			DROP

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

FIG. 56

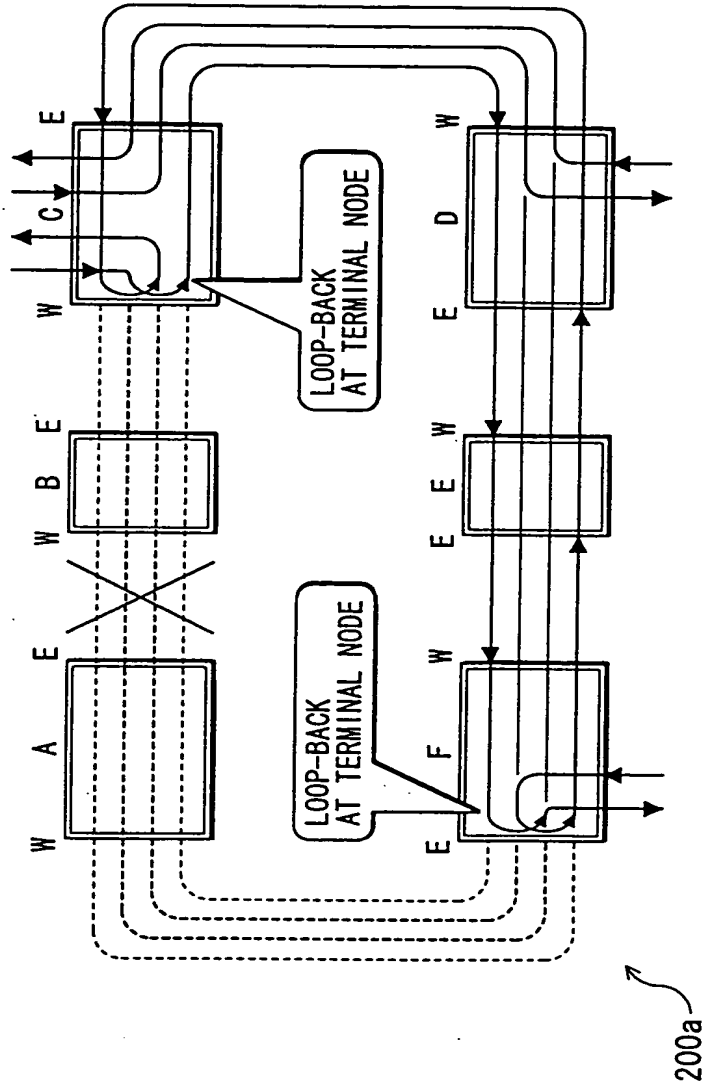




FIG. 57

DCP-DCW STRUCTURE

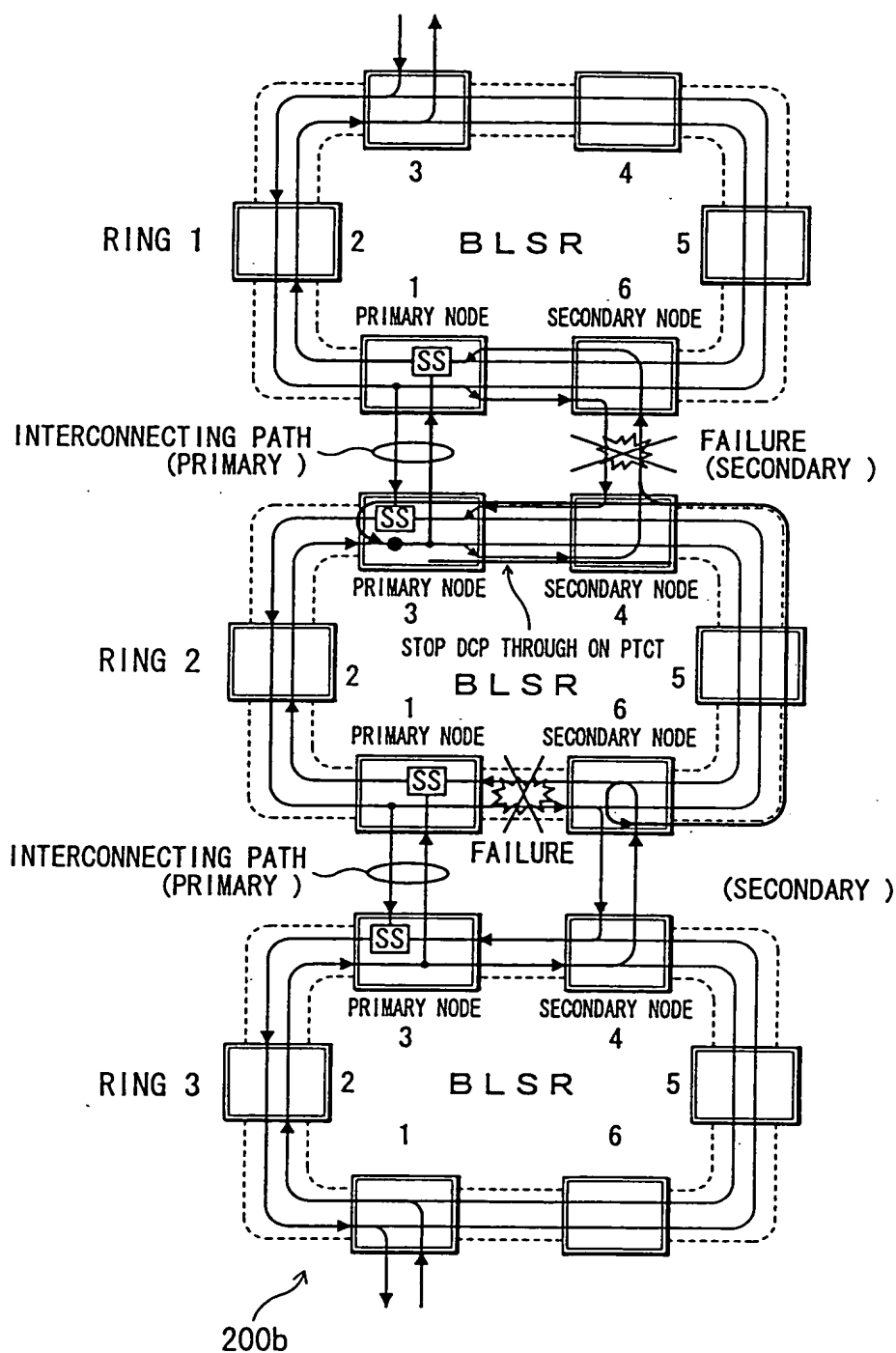


FIG. 58

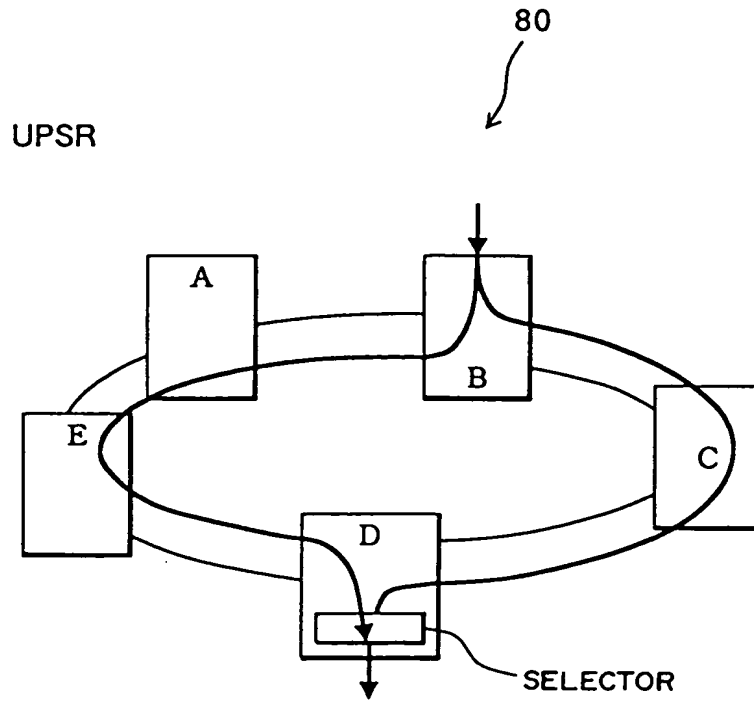


FIG. 59(a)

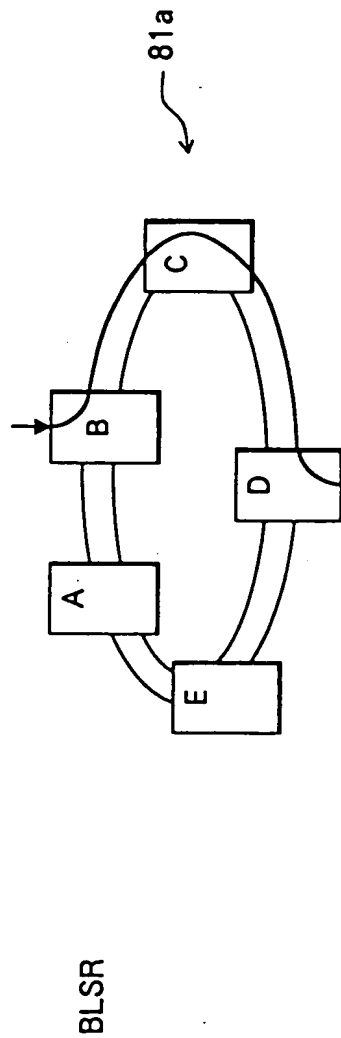


FIG. 59(b)

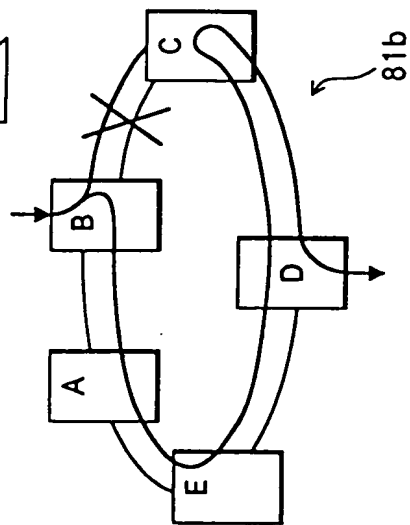


FIG. 59(c)

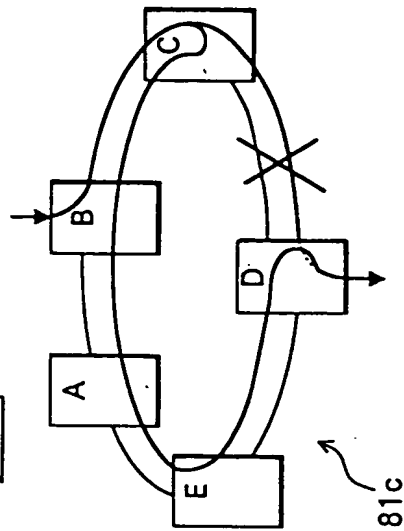


FIG. 60

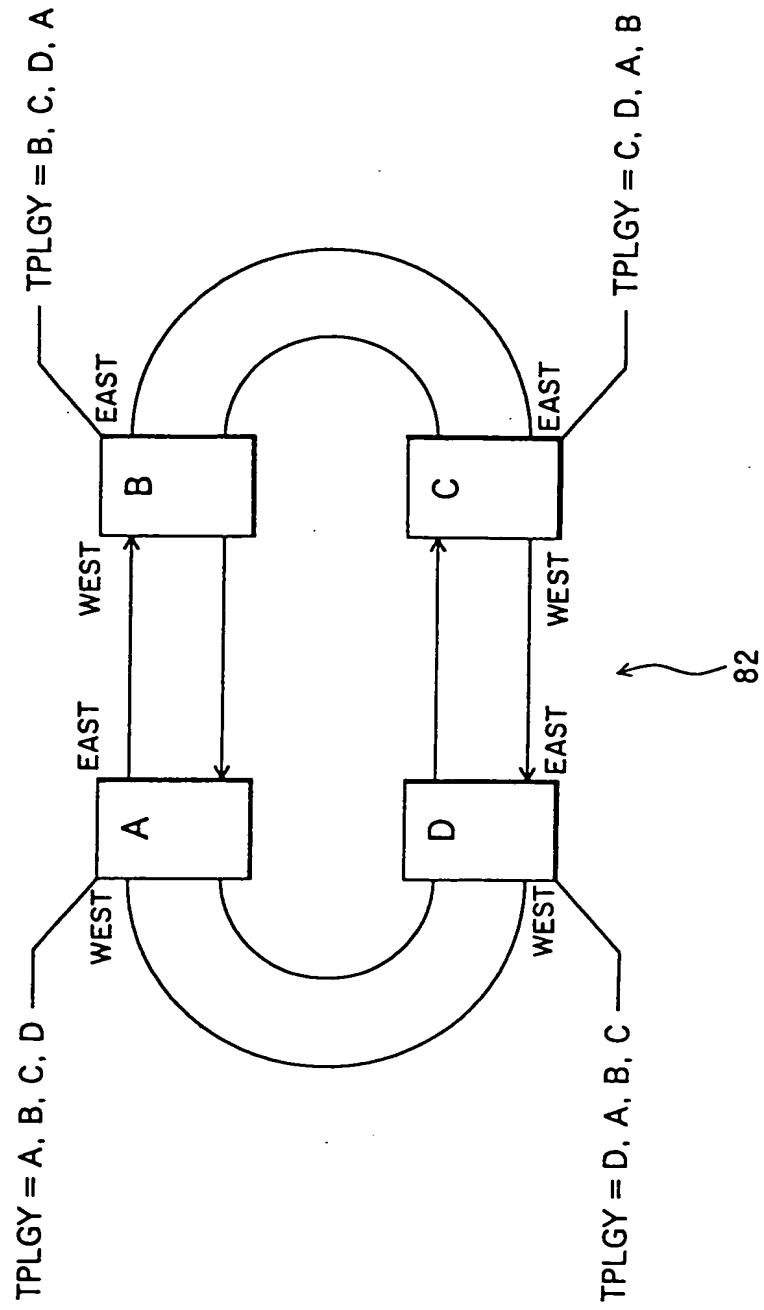
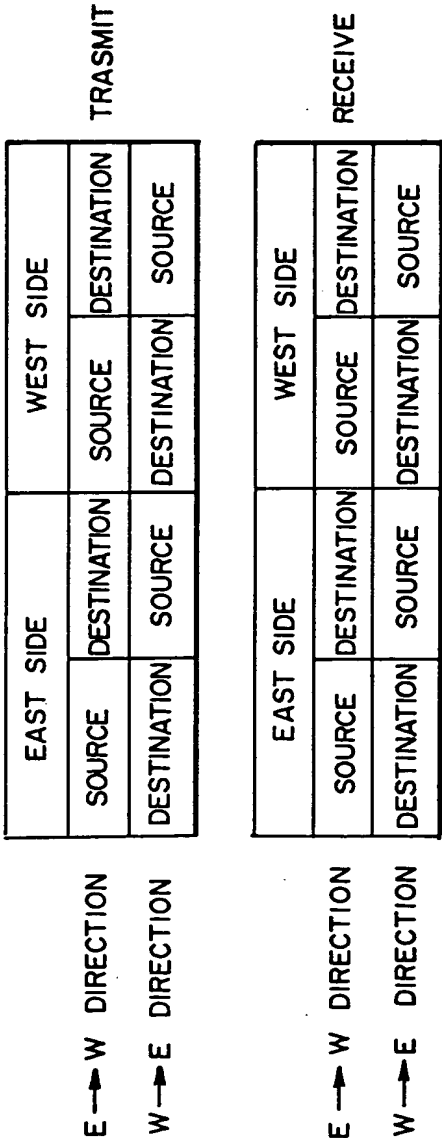


FIG. 61



SOURCE : 4 bits  
DESTINATION : 4 bits

09595613-102400

FIG. 62(a)

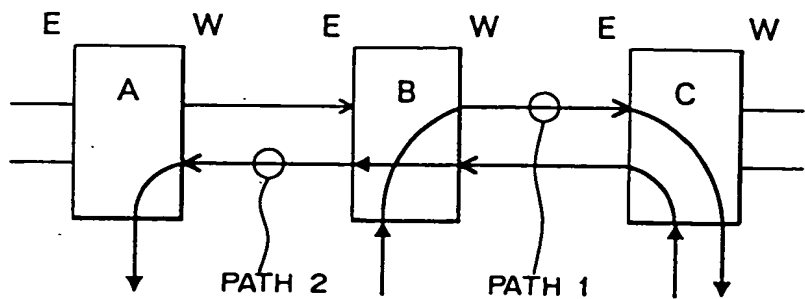


FIG. 62(b)

PATH	SOURCE NODE ID	DESTINATION NODE ID
1	B	C
2	C	A

FIG. 62(c)

		NODE A			
		EAST		WEST	
PATH1	E-W				
	E-W			A	C

NODE B			
EAST		WEST	
		B	C
A	C	A	C
SOURCE	DEST.	SOURCE	DEST.
DEST.	SOURCE	DEST.	SOURCE

NODE C			
EAST		WEST	
B	C		
A	C		

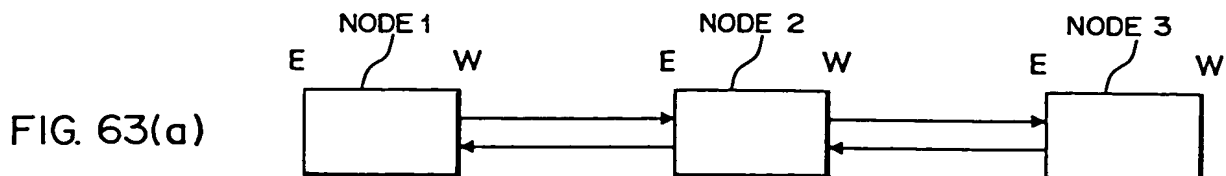


FIG. 63(a)

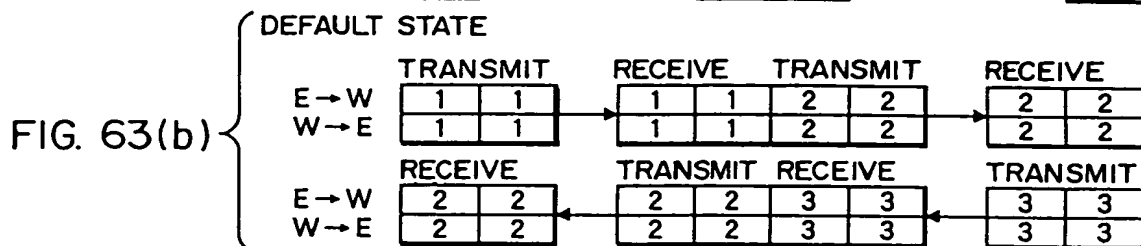


FIG. 63(b)

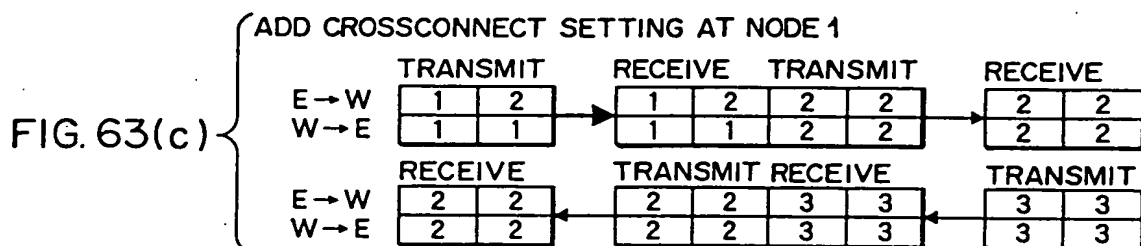


FIG. 63(c)

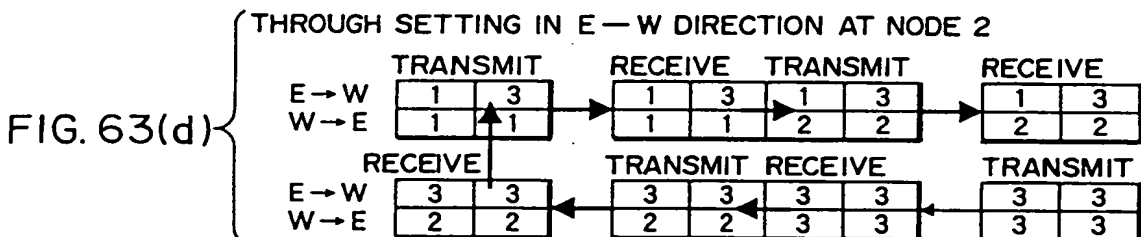


FIG. 63(d)

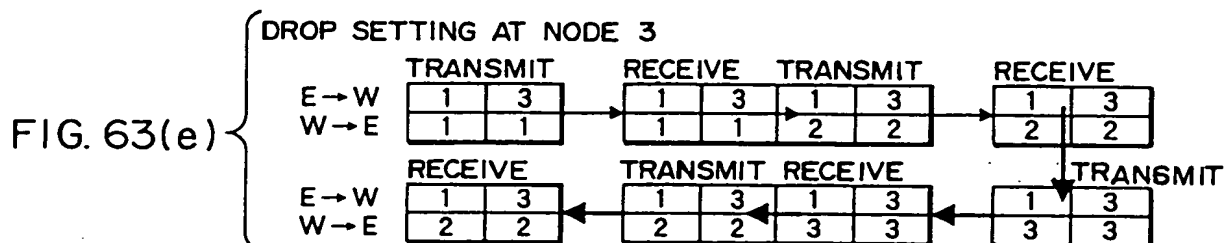


FIG. 63(e)

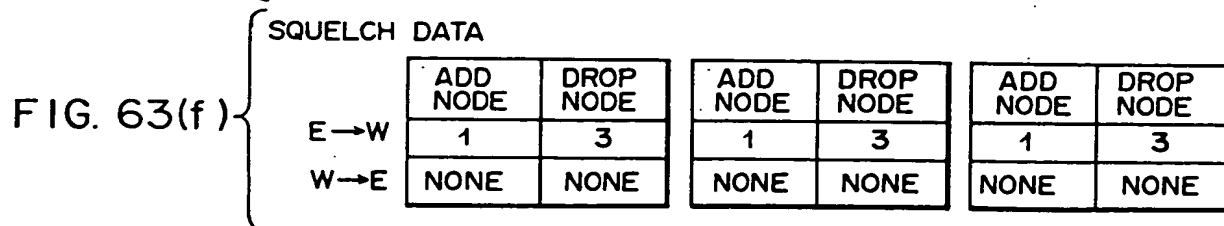
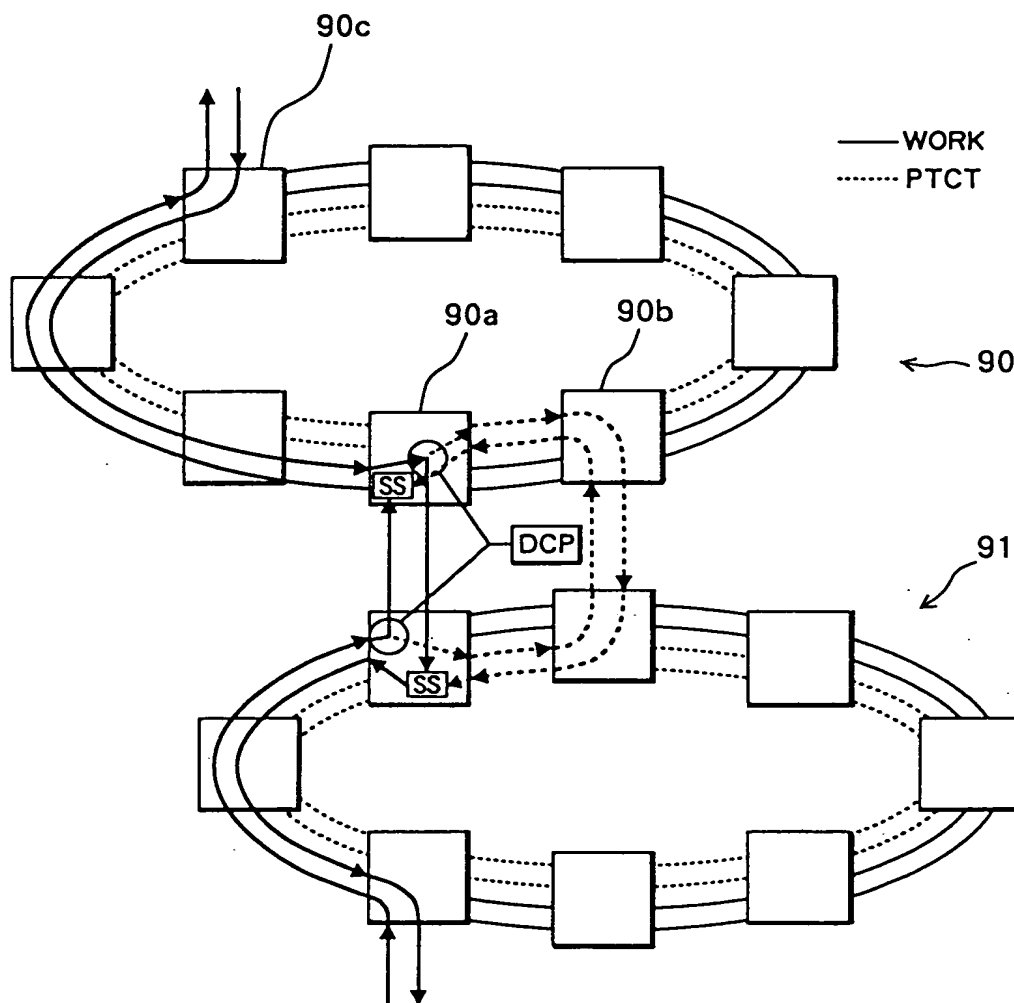


FIG. 63(f)

FIG. 64





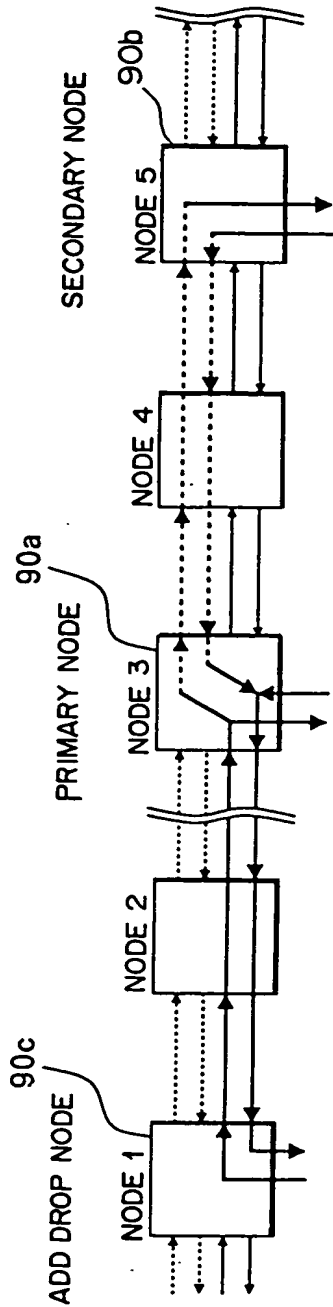


FIG. 65(a)

SQUELCH TABLE

ADD NODE	DROP NODE
1	5
5	1

ADD NODE	DROP NODE
1	5
5	1

ADD NODE	DROP NODE
1	5
5	1

NO SQUELCH DATA EXISTS  
IN A SPAN IN WHICH PT  
LINE IS USED

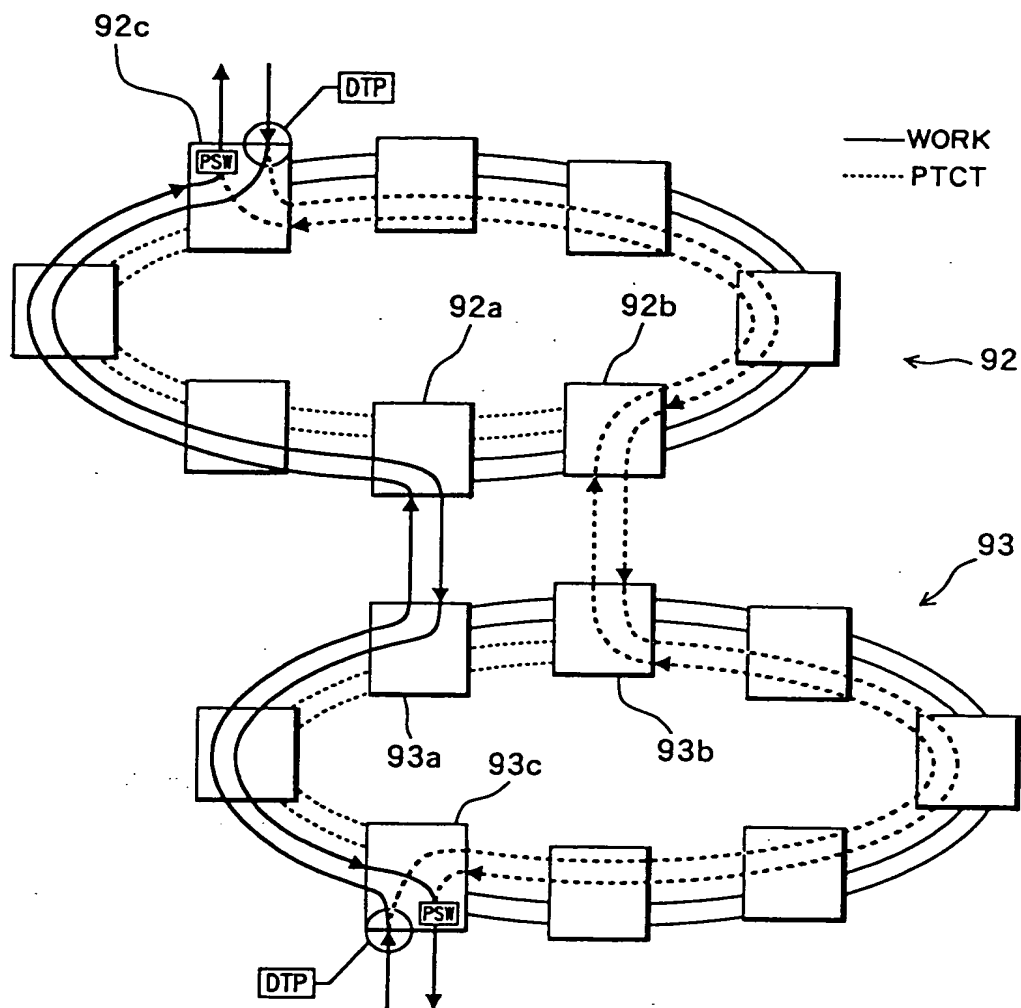
FIG. 65(b)

E→W  
W→E

**FIG. 66**

	Operation of primary node	Operation of secondary node
Failure in working line involving primary node		Execute ADD/DROP control on PT line in a direction opposite to primary node, insert AIS in PT line toward primary node
Failure in working line not involving primary node	Inhibit "Continue on PT", fix switching of SS to ADD's side	Execute "Drop and Continue" on PT line toward primary node (PT line from terminal node) to transmit signals to primary node, inhibit setting of SS on PT line toward terminal node
Failure in protection line, failure in a span through which no signal passes	Inhibit "Continue on PT", fix switching of SS to ADD's side	Inhibit "ADD/DROP" to PT line

FIG. 67



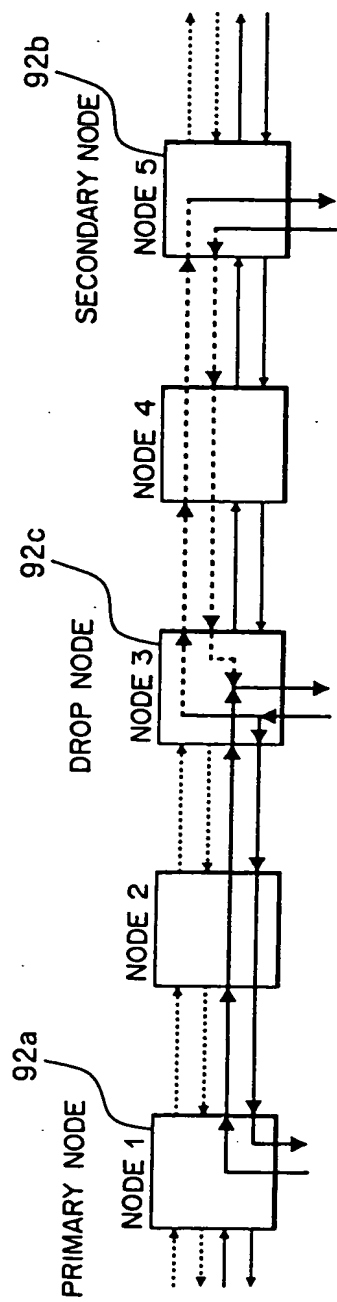


FIG. 68(a)

SQUELCH TABLE

ADD NODE	DROP NODE
5	3
3	5

ADD NODE	DROP NODE
5	3
3	5

ADD NODE	DROP NODE
5	3
3	5

FIG. 68(b)

E → W

W → E

**FIG. 69**

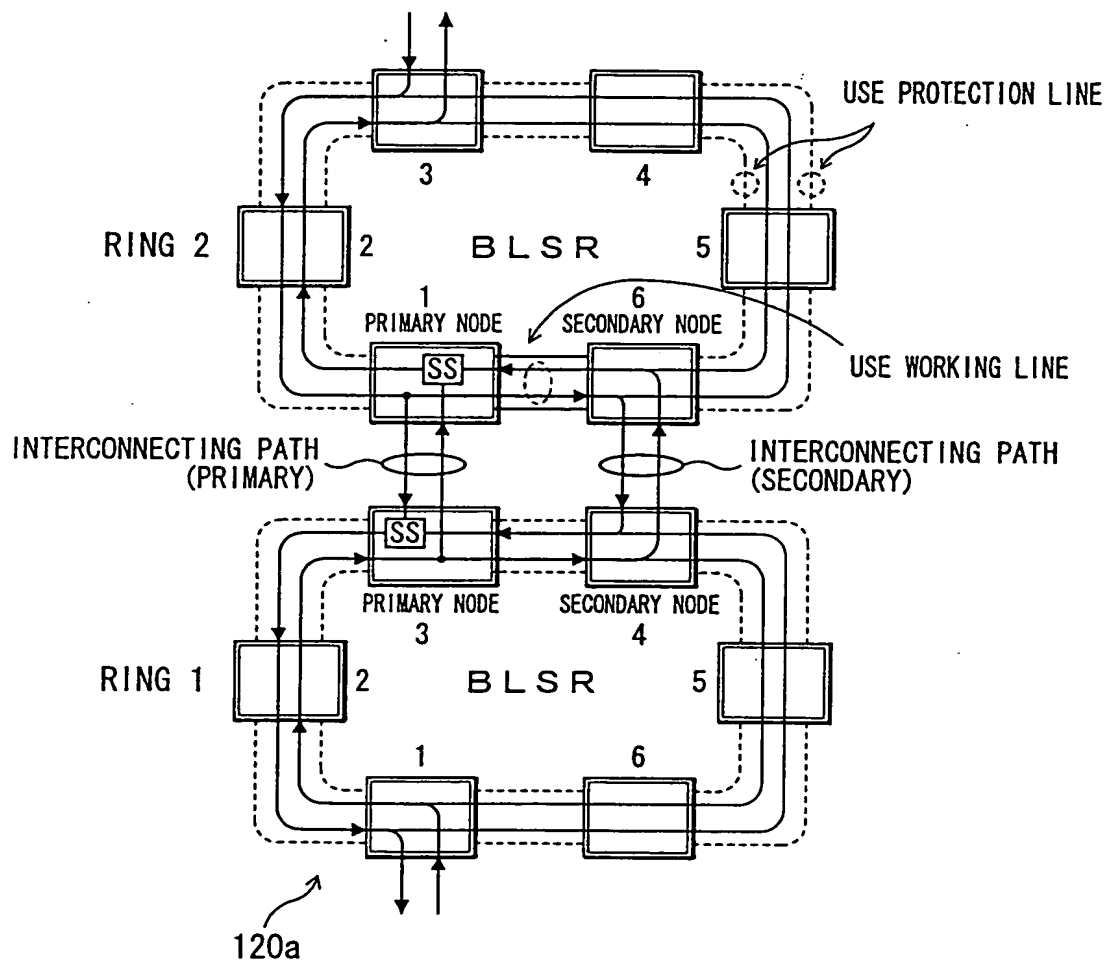
	Operation of primary node	Operation of secondary node
Failure in working line involving primary node		Keep executing "ADD/DROP" on PT line
Failure in working line not involving primary node	Perform normal switching operation, operate as a through station when being a through station	Execute "Drop and Continue" on PT line toward primary node (PT line from terminal node) to transmit signals to primary node, inhibit setting of SS on PT line toward terminal node
Failure in protection line, failure in a span through which no signal passes	Same the above	Inhibit "ADD/DROP" to PT line
Failure in working line or PT line involving terminal node	Same the above	Same the above

00420T ET956960

00420T ET956960

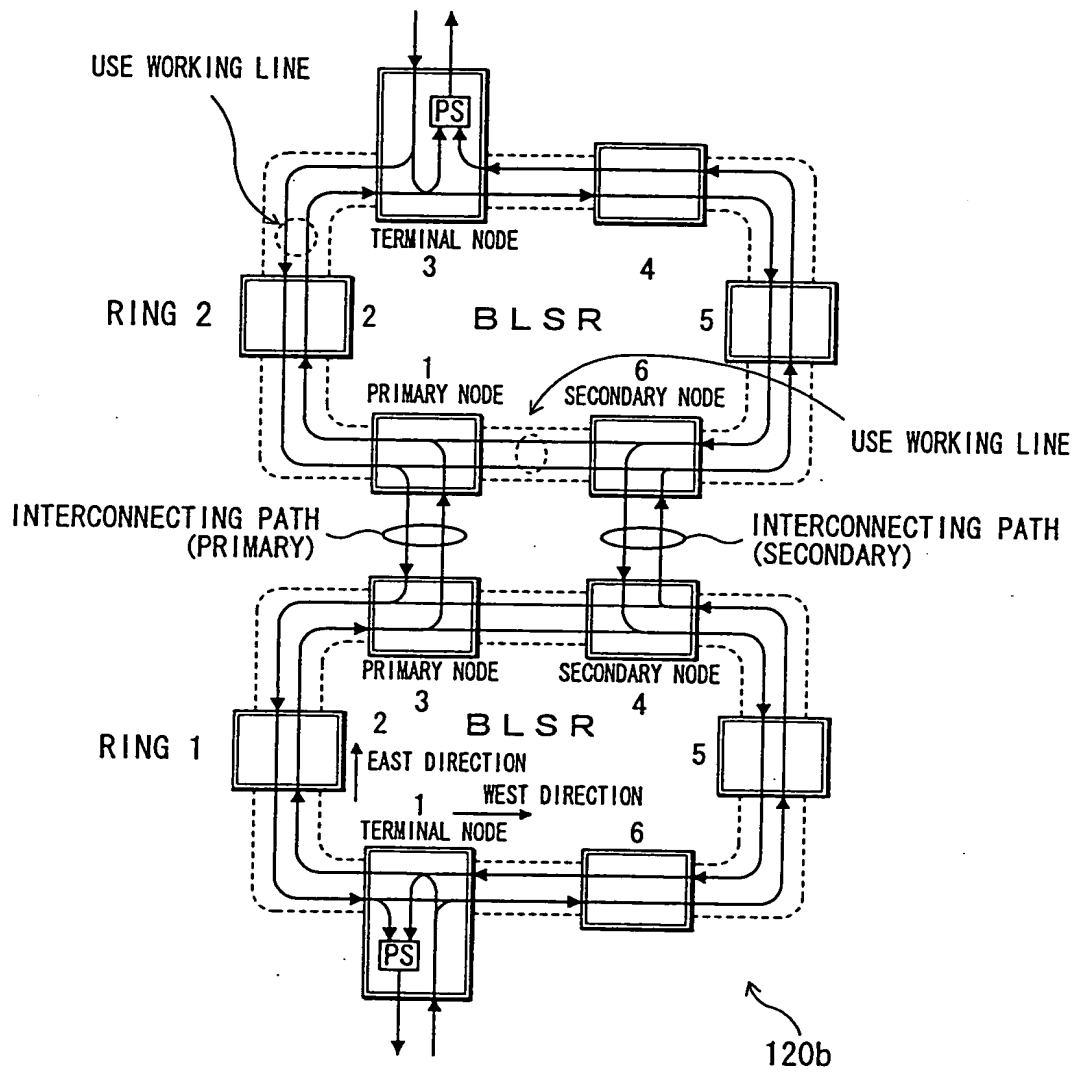
FIG. 70

SINGLE-SIDED DCW STRUCTURE



# FIG. 71

## DTW STRUCTURE



00420T ET956960

FIG. 72

SINGLE-SIDED DCP STRUCTURE

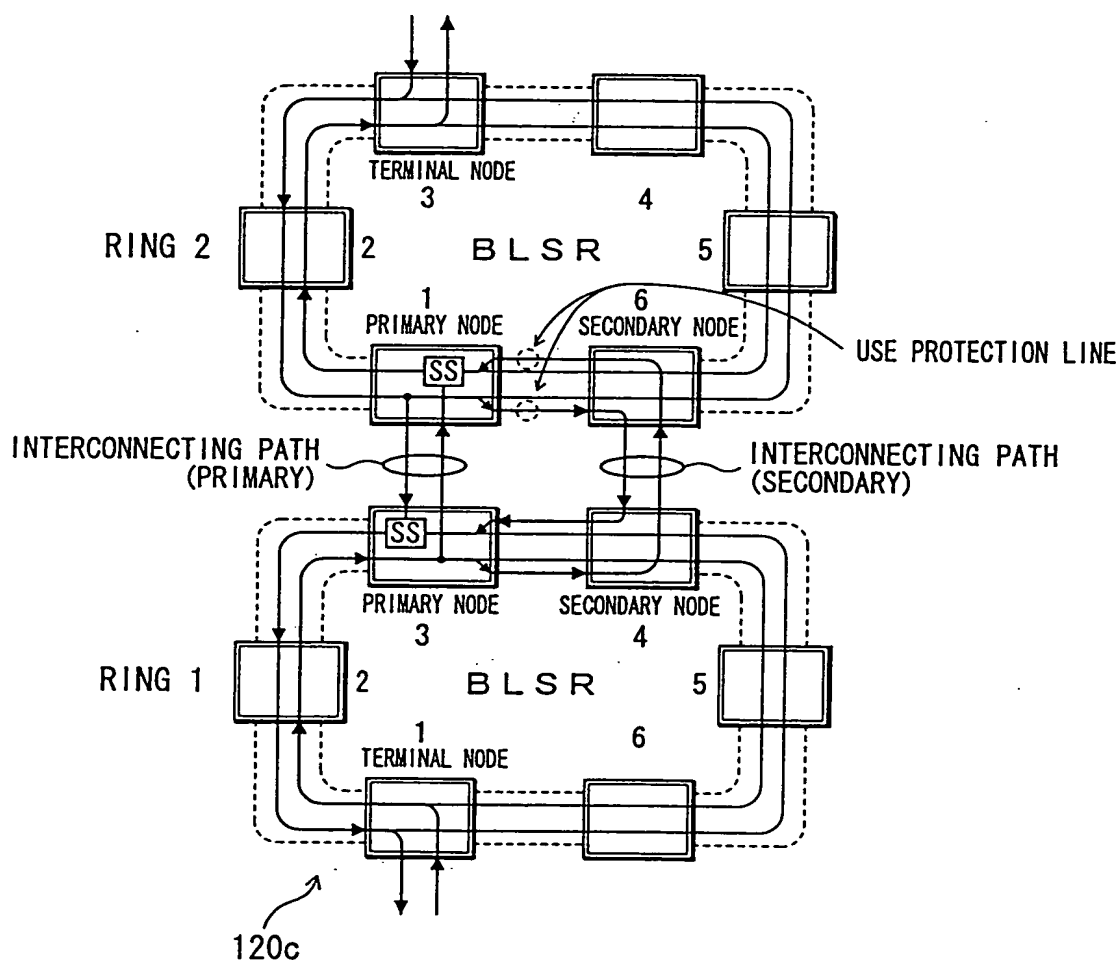




FIG. 73

DTP STRUCTURE

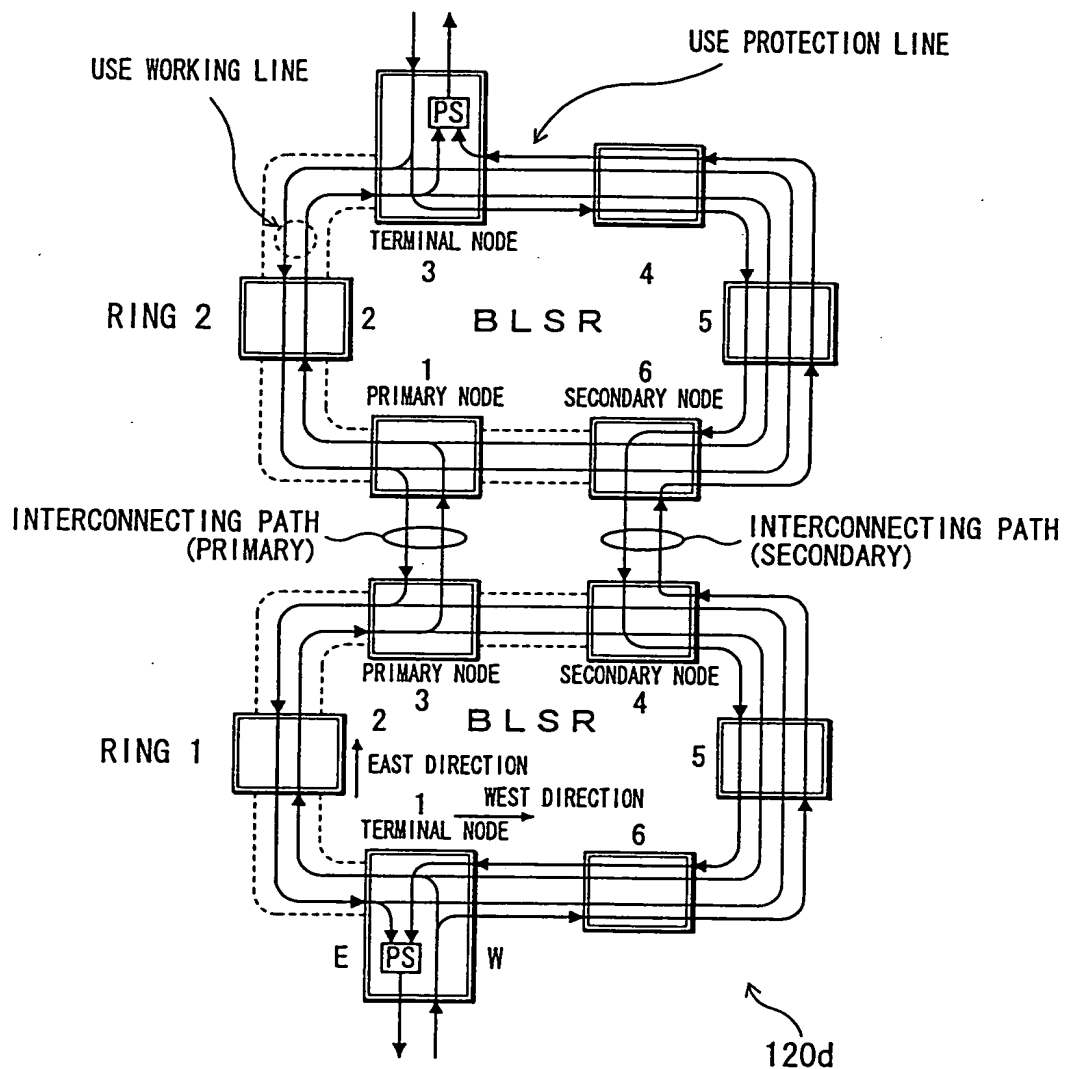
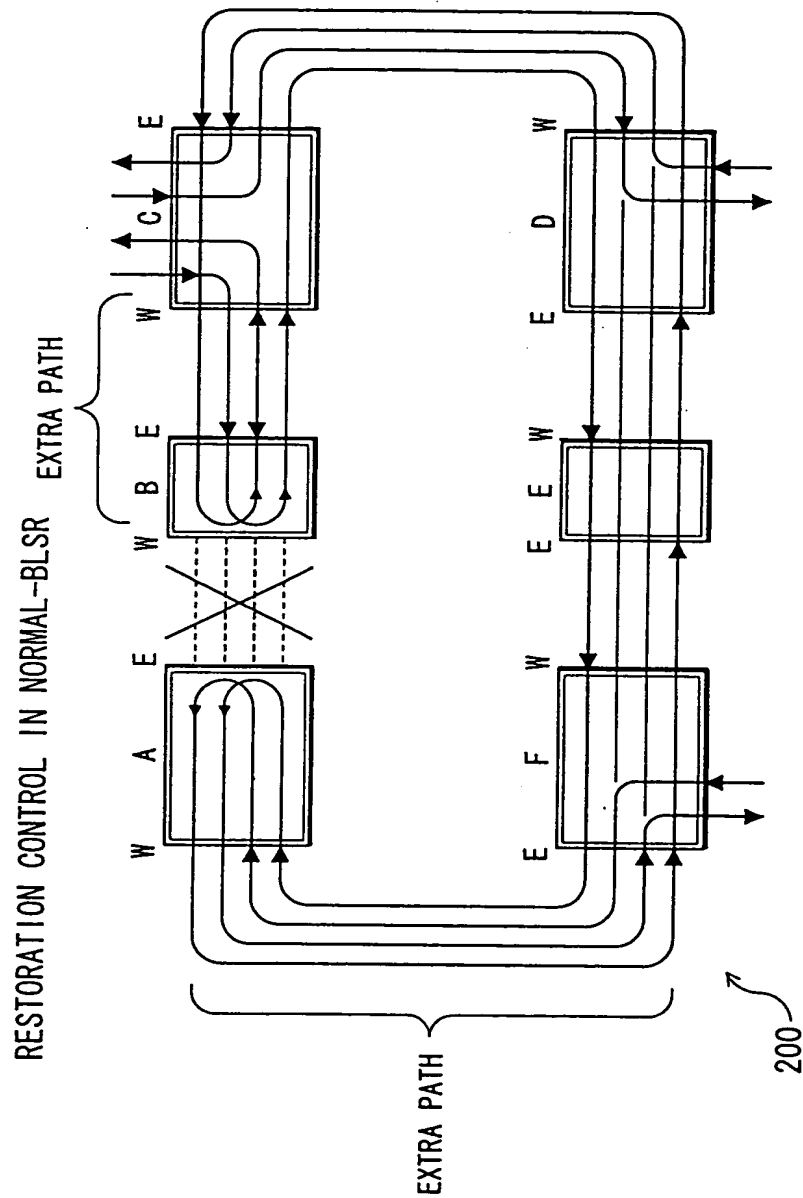


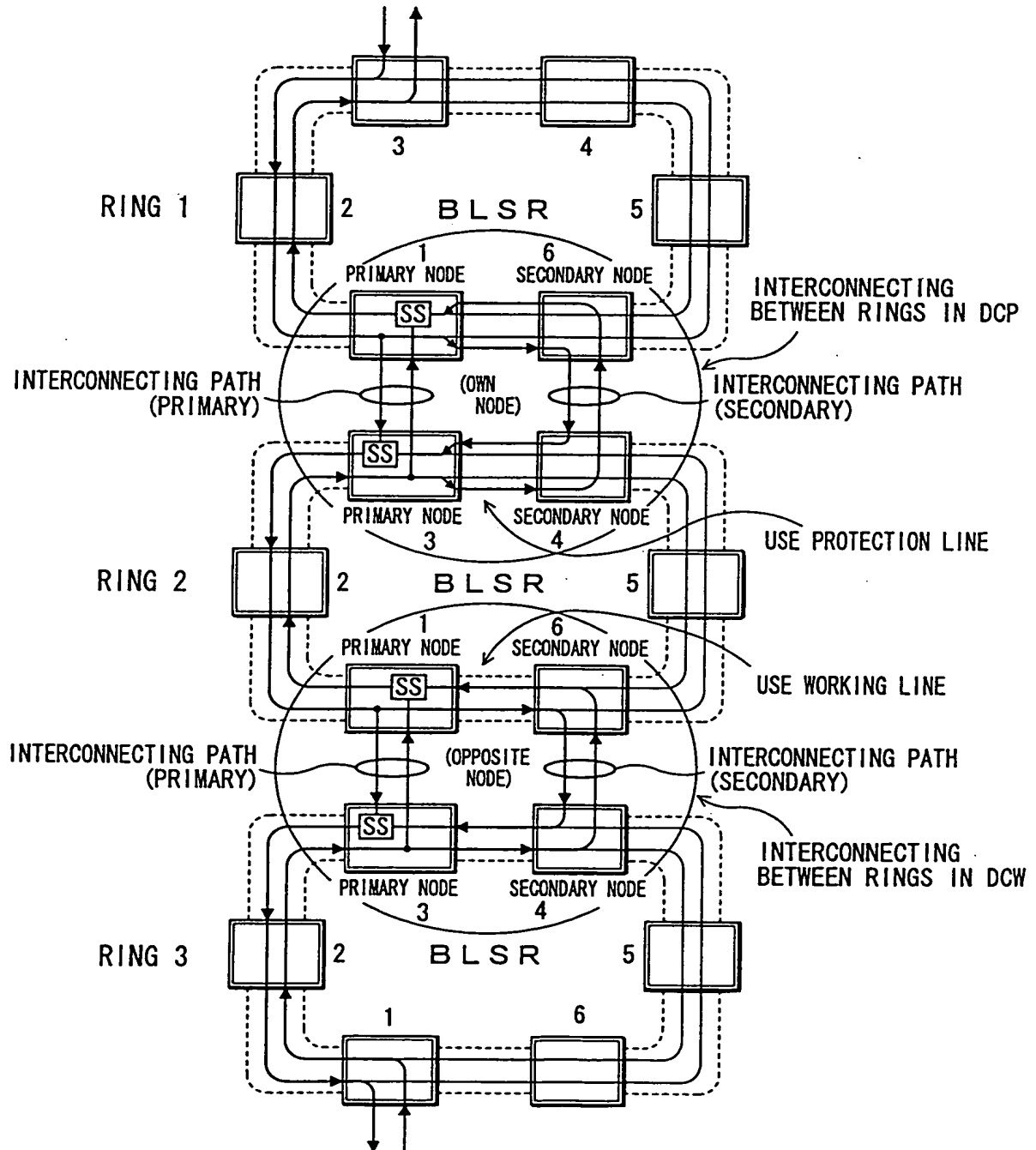


FIG. 75



# FIG. 76

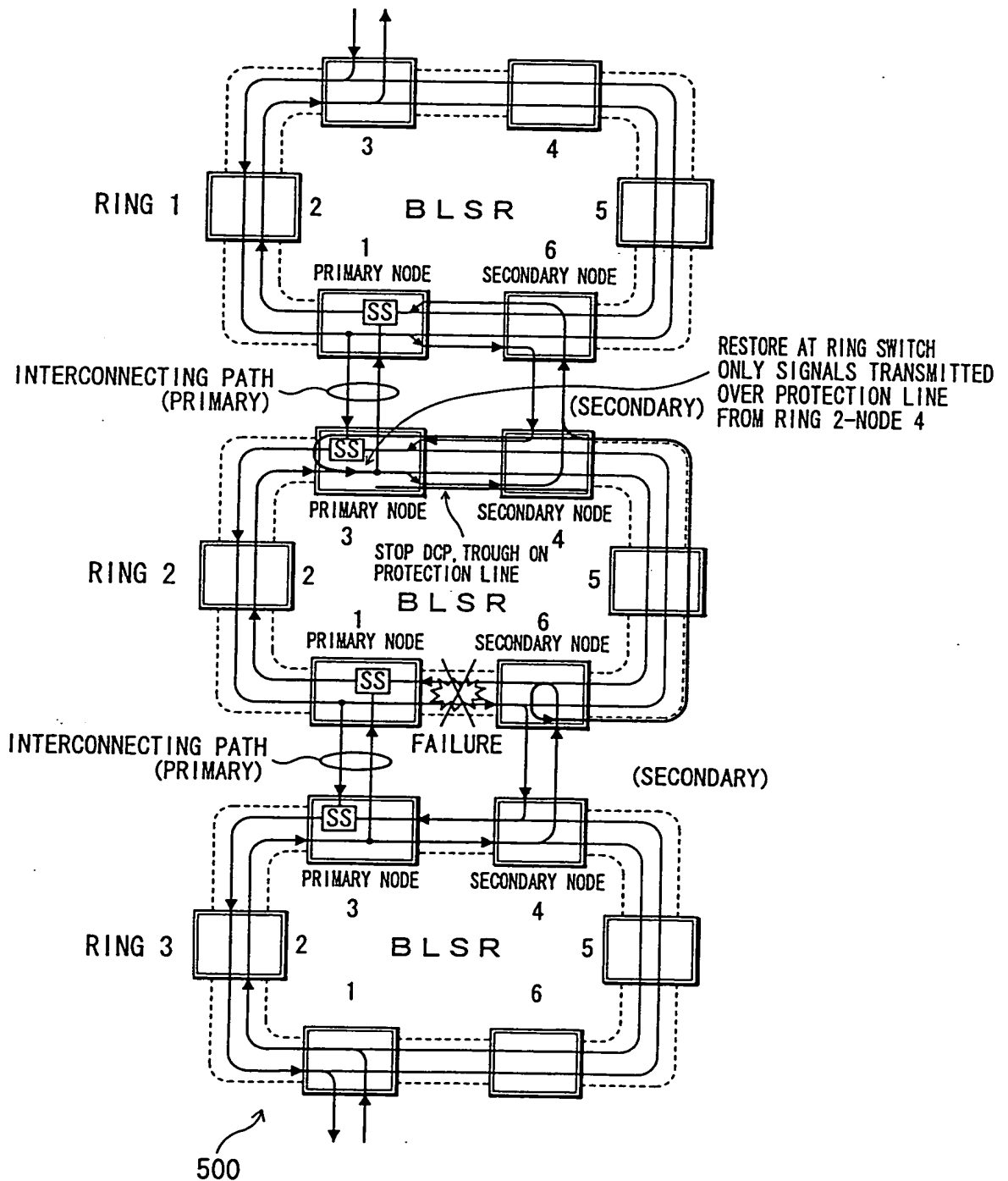
## DCP-DCW STRUCTURE



004207-CT956960

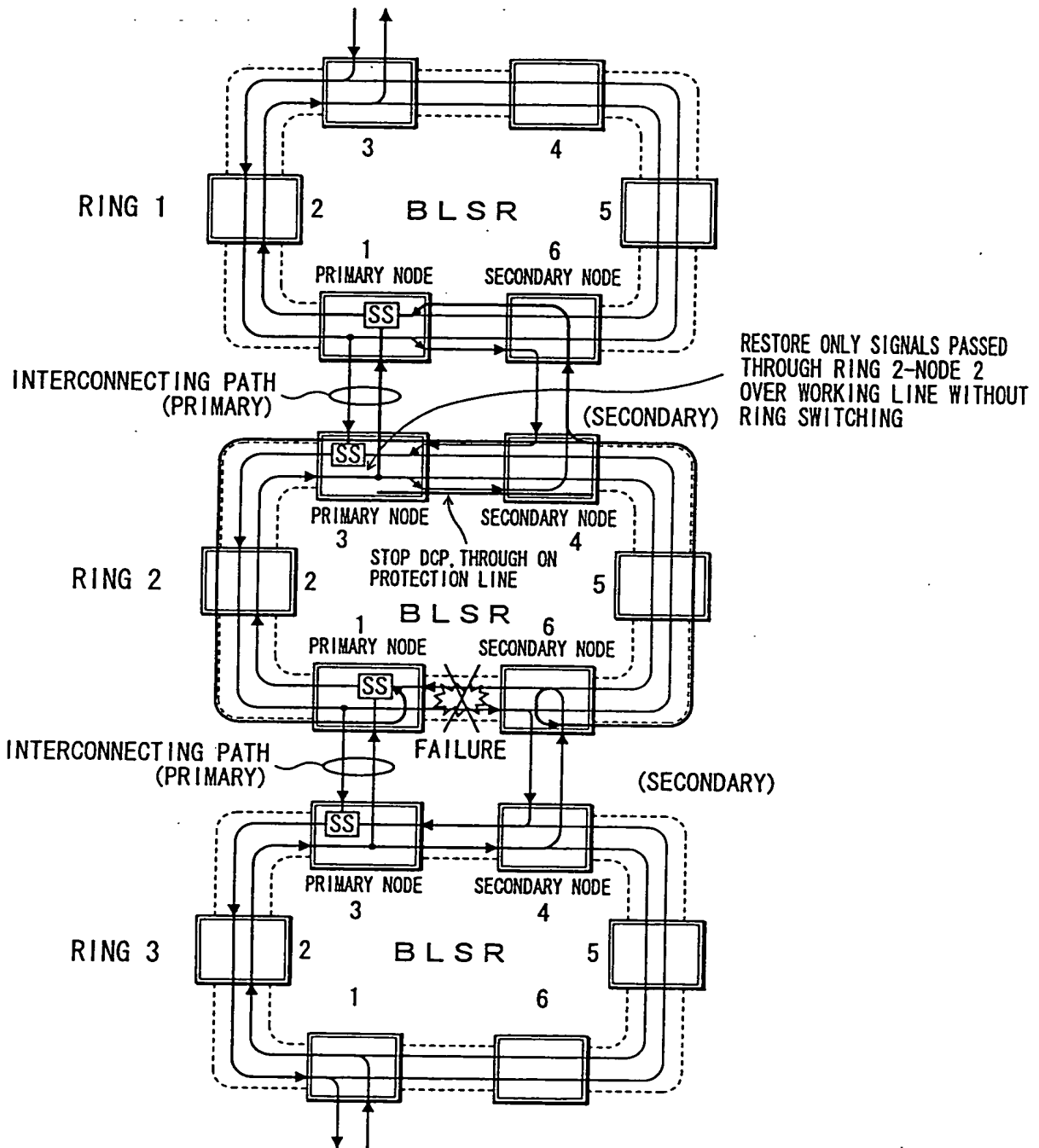
# FIG. 77

## DCP-DCW STRUCTURE



# FIG. 78

## DCP-DCW STRUCTURE



004207 ET95960

# FIG. 79

## DCP-DCW STRUCTURE

